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FIREFIGHTING PREPAREDNESS

HEARING

BEFORE THE

SUBCOMMITTEE ON PUBLIC LANDS AND FORESTS

OF THE

COMMITTEE ON
ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

ONE HUNDRED NINTH CONGRESS

FIRST SESSION

ON

FIREFIGHTING PREPAREDNESS

APRIL 26, 2005

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FIREFIGHTING PREPAREDNESS

APRIL 26, 2005

U.S. SENATE,
SUBCOMMITTEE ON PUBLIC LANDS AND FORESTS,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:33 p.m., in room SD–366, Dirksen Senate Office Building, Hon. Larry E. Craig presiding.

OPENING STATEMENT OF HON. LARRY E. CRAIG, U.S. SENATOR FROM IDAHO

Senator CRAIG. Good afternoon, everyone. the Subcommittee on Public Lands and Forests will convene.

I want to welcome all of our witnesses. Assistant Secretary of Policy, Management and Budget for the Department of the Interior, Lynn Scarlett. Lynn, welcome.

Under Secretary of Natural Resources and the Environment for the Department of Agriculture, Mark Rey. Mark, welcome.

Robin M. Nazzaro, Director of Natural Resources and Environment at the U.S. Government Accountability Office. Robin, welcome.

Jim Caswell—I have had the privilege of working with Jim over the years out in the State of Idaho, Office of Species Conservation for the State of Idaho—who is here today to testify on the Western Fire Leadership Council blue ribbon report on large fire suppression costs. Jim was a co-chair, along with Kirk Rowdabaugh, State Forester of Arizona, who is the other co-chair of that council.

So we welcome all of you for being with us today.

I am going to ask that all of you come to the witness table as you have. Together we will take testimony from all of the agencies and then from the Government Accountability Office and finally from the blue ribbon panel. I am doing this so that we can gain the benefit of give and take between our witnesses during the question and answer period. I am interested in some give and take between you as it relates to the question of fire costs and what can be done to control these costs.

As we have done in past years, we are very interested in your projection of the upcoming fire season. I have to say the outlook for my State of Idaho and the Pacific Northwest is not very good at this moment.

In 6 out of the last 8 years, we have expended more funding on fire suppression than was appropriated. While over eight million

acres burned last year, over 80 percent of those acres were in the State of Alaska.

I am concerned what the costs might be. If those six-to-seven million acres burned were in the Intermountain West or in the Cascades, I think those projections would have been dramatically different, or the realities would have been.

We are also going to hear from Robin Nazzaro on two reports that the Government Accountability Office has recently completed: one on progress on cohesive strategy, and one on assessing technology to better protect structures and improve communications during these wildfires. Both have implications on the long-term costs of firefighting.

We all understand that the decision to ground the heavy fixed wing retardant aircraft had both monetary and operational impacts. It also forced the agencies to re-examine the contracts they use to ensure needed aerial assets are available.

I am afraid, given the number of calls, letters, and visits that I have received, that this transition is not going smoothly, and I will be asking questions on these issues.

I know that Senators Wyden and, of course, the ranking member of the full committee, Senator Bingaman, and others have issues that they want to hear about and are most interested in the projections you all see for the upcoming fire season.

We will follow a 5-minute testimony rule today to allow maximum time for questions from all of you. Before I ask for you to start, Lynn, I will turn to Senator Bingaman for any opening comments he would like to make.

Senator.

STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR FROM NEW MEXICO

Senator BINGAMAN. Thank you very much. Thanks to all the witnesses for being here. Chief Domback, in a recent article, observed we spend half the year talking about the need to reintroduce fire into fire-adaptive ecosystems, and the other half of the year suppressing wildfire at substantial economic costs. I thought that was an insightful comment.

We have several reports that I gather—a couple of reports that we are going to hear something about today, and let me just highlight a couple of issues that I think are covered in those reports.

There is a cost management report, as I understand it. The Western Governors have endorsed the report as highly persuasive. Agencies have agreed to implement the recommendations of that report.

I guess my question would be what are we waiting on? Is there some reason we are not going ahead? There have been several months that have passed since the report was issued, and I have not seen indications that we are going ahead and implementing the recommendations.

One other issue, Mr. Chairman, I wanted to flag for the panel is that we had this tragic air crash in California last week, and I am very unclear in my own mind about what the plan is with regard to the airtanker situation, both short term and long term.

I hope the witnesses can address that. That is a subject that we have heard about now for several years, and I had sort of thought we were on the way to getting that fixed, but I guess my information was erroneous in that regard. But I would be interested in hearing anything I could on that subject. Thank you very much.

Senator CRAIG. Senator, thank you.

Senator Murkowski, do you have any opening comments?

STATEMENT OF HON. LISA MURKOWSKI, U.S. SENATOR FROM ALASKA

Senator MURKOWSKI. Well, thank you, Mr. Chairman. I will put the full comments of my statement in the record, but I do want to follow up on Senator Bingaman's comment about the loss of the three fire aviators last Wednesday. We join with their families and their co-workers in grieving their loss.

For those of us in Alaska, we recognize that wildfires are part of our summer, part of the landscape out there, but last year was tough for us. 2004 was our worst fire season in our State's history.

We had 148,000 lightning strikes. On one afternoon that I was there, they had had 11 just minutes before. We had 737 wildfires, 6.72 million acres burned. That is one of the estimates, incredible in terms of our numbers.

Hundreds were evacuated from their homes. Some were evacuated, returned to their homes, and then had to be evacuated again.

On the positive side for us in Alaska, there was no loss of life and very little loss to private property. But it bears noting that that 2004 fire season did not end because the firefighters were successful in extinguishing the fires; it ended basically because winter came. The fires continued literally all summer. And it wasn't just the fire itself, but the smoke, and the effect on the quality of life.

We had 40 days, a full month plus, of extreme smoke conditions in Fairbanks. Forty days of toil on economic and recreational opportunities. Forty days of really very difficult breathing in interior Alaska.

I was up there on several occasions, and your eyes burned, your lungs burned. And I was inside, in the buildings.

We saw the smoke migrating all across the State, so thick actually, down in Anchorage, that we had air-quality warnings. So, again, Mr. Chairman, we hope that in Alaska we are not faced with another fire season like we had in 2004.

I am going to be listening with great interest as we discuss how we deal with the assets that are available to us and assets available in a timely manner.

We were very concerned about whether or not we would be able to get the aircraft that we needed. There were issues that crossed jurisdictional bounds, let us say, that complicated the scene for us, and my constituents were very concerned.

They did not care whether it was Federal property or State property. They wanted to know that somebody was going to be coming to aid and assist.

So, Mr. Chairman, I am pleased that we are having this hearing today and look forward to the comments from all those that have joined us here this afternoon. Thank you.

[The prepared statement of Senator Murkowski follows:]

PREPARED STATEMENT OF HON. LISA MURKOWSKI, U.S. SENATOR FROM ALASKA

Good afternoon, Mr. Chairman. Last Wednesday, the lives of three fire aviators were lost when the P-3 Orion aircraft they were training on went down in the Lassen National Forest in California. We join with their families and their co-workers in grieving their loss.

Wildland firefighting is dangerous work and when one of our brave wildland firefighters is lost, the people in my State of Alaska grieve. The nation grieves. Our wildland firefighters and wildland aviators are the people who protect our homes, our property and our lives.

In 2004, nobody knew this better than Alaskans. During the summer of 2004, Alaska experienced the worst fire season in our State's young history.

The statistics are staggering:

- 148,000 lightning strikes
- 737 wildfires
- 6.72 million acres burned—that's one of the estimates
- Hundreds were evacuated from their homes—some evacuated, returned to their homes and evacuated again.
- On the positive side, no loss of life and little loss of private property.

Yet it bears noting that the 2004 fire season did not end because firefighters extinguished the fires—it ended because winter extinguished the fires.

The 2004 fires caused Alaskans to fully appreciate the impact that smoke can have on the quality of life. 40 days of extreme smoke conditions in Fairbanks. 40 days of toll on economic and recreational opportunities. 40 days of hard breathing for the residents of Interior Alaska.

Worse yet, the smoke migrated. The people who live in South Central Alaska will not soon forget the week of August 16th. Smoke poured into the Anchorage Bowl and the Mat-Su Valley without warning. Smoke so thick you could cut it with a knife. The smoke was so thick that people in downtown Anchorage began to fear that the fire was burning in their own backyards.

It is important that we dwell on the words "without warning." But it is also significant to ask why the management agencies could not tell the people of Anchorage where it was coming from.

There were initial reports that the smoke was coming from a prescribed fire set by the Bureau of Land Management in the Glennallen area, 185 miles to the east of Anchorage. Anchorage officials expressed outrage that a prescribed fire would be set during the extreme fire season and without any warning to our State's most populous community.

The Bureau of Land Management insists and has presented evidence to support that the smoke did not come from Glennallen but from Interior Alaska, having traveled more than 250 miles.

Whatever the cause, the people of South Central Alaska were rudely awakened by the persistent smoke conditions that had been plaguing the people of Interior Alaska on a daily basis since late June.

It is customary after each fire season to focus on the lessons learned. Ordinarily this after-action review is conducted within the Fire Service. However, 2004 was no ordinary year for Alaska.

Following the 2004 season, Mayor Jim Whittaker and the Fairbanks North Star Borough Assembly appointed a commission of three outstanding citizens to conduct their own independent review of the wildfire response.

In Alaska, wildfires are fought on an interagency basis with the State and the federal government sharing responsibility and resources. So many of the recommendations contained in the report are directed to the federal government as well as the State.

There are 22 recommendations in the report and I will not go into each of them. I would ask that the Department of the Interior and the Forest Service respond to each of the recommendations for the record.

I would like to highlight a few recommendations of national significance:

- The wildfire commissioners were gravely concerned that fire managers did not consider the effects of smoke on populated areas in determining the intensity of their initial attack. Their attention was focused solely on the risk that the fire posed to structures, particularly inhabited structures. They did not consider the public health effects of smoke. As a result, Fairbanks experienced 40 days of extreme smoke conditions that seriously violated air quality standards.
- The availability of heavy fixed wing retardant tankers is diminishing and is insufficient. The commissioners recommended that the nation should immediately address the need for a modern and technologically advanced tanker fleet and

agencies should insure that sufficient aircraft are available at the start of the 2005 season.
- More helicopters need to be available for fire suppression.
- The transition between Type III, Type II and Type I Incident Management Teams and back again occurred suddenly. Moreover, concern was expressed that the national teams could not access local expertise.
- And, of course, there is a continued need to educate the public about Firewise behavior.
- The quality of public information and the need for early implementation of joint information centers to control rumors and resolve differences of interpretation between agencies was also noted by the Commissioners. I should point out that even though a joint information center was up and running in Fairbanks on August 16, the people of Anchorage, 260 air miles to the south, felt that they were "in the dark" where the smoke was coming from. Municipal leaders were receiving conflicting information from the agencies. This should not be happening.

I commend the members of the Wildland Fire Commission for a very thoughtful analysis and I will look forward to hearing how the fire management agencies will implement the recommendations.

The federal government responded to the 2004 fire season in Alaska with a vast array of resources. Wildland firefighters were dispatched from across the country to supplement our own very able Alaska crews.

We were blessed to benefit from the expertise of experienced Incident Commanders and their interagency wildland fire teams. Much of the Nation's top fire talent was in Alaska last summer.

I was privileged to watch these dedicated people in action on July 5th when I visited the Type I team managing the Boundary Fire, north of Fairbanks.

My State Forester, Jeff Jahnke, has asked me to express two words to the dedicated fire managers, wildland firefighters and fire aviators who came to Alaska last summer. Those two words are "Thank you." You are our heroes and we thank you.

And let me add my personal thanks to Interior Secretary Gale Norton and to Mark Rey, the Undersecretary of Agriculture, who were always there when I needed them.

Thank you, Mr. Chairman for convening this hearing. You have assembled a distinguished panel and I look forward to their testimony.

Senator CRAIG. Thank you very much, Senator.

Senator Burns.

STATEMENT OF HON. CONRAD BURNS, U.S. SENATOR FROM MONTANA

Senator BURNS. Thank you, Mr. Chairman. I will be brief. I give up. I just give up. Up in Montana, we got a snow pack. It is about 60, 65 percent of normal. We are getting rain now, and maybe that will not be so darn wet up there. Who knows. We got lucky last year, and I would hope that we could probably be fortunate enough, because I have given up.

I believe in prevention, and we are not getting it done. We are not cutting it. I lost another mill, got logs laying on the ground, cannot get to them, and I just give up.

So I have this to put on the record, and I will hear what they have got to say, but it has got to be pretty darn good. Thank you very much.

[The prepared statement of Senator Burns follows:]

PREPARED STATEMENT OF HON. CONRAD R. BURNS, U.S. SENATOR FROM MONTANA

In 2004, nearly 7 million acres of forest and rangeland were burned including 6 million acres in Alaska, which experienced its largest wildfire season on record.

Wildfire suppression costs were $900 million which I understand includes the additional $60 million of replacing the large airtanker fleet with helicopters and single engine airtankers.

In Montana, we've been fortunate to have some spring moisture, but with the snow pack at 60 percent of average in Montana, Idaho, Oregon, and Washington, combined with the continuing drought, we could experience another severe fire sea-

son in these states. The good news is we do have a decent snow pack for the southwest, California, Colorado, and Utah.

In 2004 an independent panel of federal, state, and county experts completed a fire-suppression cost-management report. Another cost management report issued by the National Academy of Public Administration stated the Forest Service and the Department of the Interior could substantially reduce wildfire suppression costs by changing its purchasing activities.

I would be interested in the Department of Agriculture and the Department of the Interior progress in implementing the reports' recommendations. I would specifically like to hear the progress made to ensure initial responses are guided by the closest appropriate forces, especially those of local and Tribal governments.

I have some concerns with the National Fire Plan funding. The continued funding for wildland fire preparedness and hazardous fuel reduction is important and I strongly support increasing the funding for both of them.

What I am concerned about is the reduced funding for community assistance and restoration. I find it difficult to accept that the FY 2006 Budget proposes an $88 million reduction in State and Private Forestry, which includes $32 million in cooperative fire assistance, $32 million in forest health management, and $23 million in cooperative forestry, and the elimination of the economic action program. Other reductions include State Fire Assistance $23 million and cooperative land management $31 million.

This strikes me as a poor way to meet the recommendations of both the Wildlands Fire Leadership Council and the National Fire Plan which emphasize the federal agency need to work closely with Tribal, State, and local governments on fire suppression.

I am also concerned with the reduction in restoration funding. This funding is critical to controlling erosion and reducing fish and wildlife habitat losses. This includes noxious weed treatment. If we don't keep up with the weed treatments, we will continue to lose more and more habitat to non-native vegetation which in turn affects the watershed and wildlife.

In 2004, the Forest Service limited its use of large fixed wing airtankers due to concerns raised by the FAA and NTSB. The agency did clear 7 P-3's for use in 2004 and is completing a review of aircraft service life for P-2V aircraft owned by Neptune Aviation and Minden Aircraft. I realize a P-3 aircraft crashed during a training flight last Wednesday, April 20th. I believe we should withhold judgment on whether large airtankers are safe until we see the P-3 investigation report and the aircraft service life contracts are completed.

I would like to hear from our witnesses what the 2005 fire season plans are for retardant aircraft, and the long-term strategy for replacing the existing large airtanker fleet.

Finally, I consider the Healthy Forests Restoration Act an important part of reducing the catastrophic wildfire risk. The act authorized increased funding to the Forest Service and Bureau of Land Management to reduce hazardous fuels and I hope you can take a few minutes to discuss the successes of how the act is reducing hazardous fuels.

I want to welcome our witnesses, Mark Rey, the Department of Agriculture's Undersecretary for Natural Resources and the Environment, Lynn Scarlet, Assistant Secretary for Policy, Management, and Budget, Robin Nazarro, GAO's Director for Natural Resources and Environment, and Jim Caswell, Co-chair of the Strategic Issues Panel on Fire Suppression Costs. I appreciate hearing from all of you and look forward to your testimony.

Senator CRAIG. Senator, thank you. I think you can all judge by the opening comments, there is a growing high level of frustration here in the Congress about a variety of issues, in part centered around the core issue of today's hearing.

With that, Lynn, would you please begin. Assistant Secretary, Policy Management and Budget, Department of the Interior, Lynn Scarlett.

Ms. SCARLETT. Senator Craig, if I might, I would like to ask Mark Rey to begin. We have a joint statement, and we have divided up the duties with his going first, if that is all right with you. Will that work okay?

Senator CRAIG. We would certainly allow the Under Secretary for Natural Resources and the Environment of the Department of Ag-

riculture to proceed. I was kind of looking at the total landscapes involved here, trying to determine who was on first and who was on second. You have done that by process.

Ms. SCARLETT. Thank you very much. I apologize.

Senator CRAIG. Mark, please proceed.

Mr. REY. We cooperated to write a joint statement as an indication that we can cooperate to fight fires effectively as well.

Senator CRAIG. All right.

STATEMENT OF MARK REY, UNDER SECRETARY FOR NATURAL RESOURCES AND ENVIRONMENT, DEPARTMENT OF AGRICULTURE, ACCOMPANIED BY LYNN SCARLETT, ASSISTANT SECRETARY, POLICY, MANAGEMENT AND BUDGET, DEPARTMENT OF THE INTERIOR

Mr. REY. Thank you for the opportunity to meet with the subcommittee today. The three themes that characterize our efforts for wildland fire management and hazardous fuels reduction are better management to assure efficient use of resources, the application of science to inform our decisions, and collaboration with other levels of government and non-government entities to leverage resources and ensure coordinated action.

I want to start at the outset by assuring you that the Forest Service and the Department of the Interior continue to have available the resources, including firefighters, equipment, and aircraft necessary to continue to achieve a high rate of success in suppressing fires on initial attack. Our plans, as discussed below, ensure successful initial attack capability, with public and firefighter health and safety continuing to be our highest priority.

Now with respect to the 2005 fire season outlook, the Predictive Services office at our National Interagency Fire Center in Boise provides an ongoing outlook for the fire season by monitoring weather conditions and other factors and reporting changing conditions. These reports increase in frequency as the fire season progresses. The preliminary outlook for the 2005 fire season shows normal fire potential in the Southern and Eastern States. Significant fire activity in the Southwest is expected to occur mostly in the southern parts of Arizona and New Mexico and at lower elevations over a relatively narrow band of time. That is a sharp contrast to the previous fire seasons in the Southwest, where we had extended high risk areas at higher elevations and heavier fuels.

The potential for an above-average fire activity exists in the Northwest and in the northern Rocky Mountain States later this summer. Alaska is not expected to have another severe fire season like that of last year.

We expect to have firefighting resources, comparable to those that were available to us last year. The number of firefighters usually peaks in late June, as students become available following firefighter training. More than 18,000 Federal firefighters will be available, including permanent and seasonal employees, crews from tribal and local governments, contract crews, and emergency and temporary hires.

Training and qualification systems for personnel are standardized nationally. There will be 16 Type 1 national interagency incident management teams available for complex fires or incidents.

Thirty-eight Type 2 incident management teams will be available for regional or national incidents.

If local areas experience severe fire risk, we will increase firefighting ability by staging or deploying firefighters, equipment, and teams as needed.

During 2005, the Department of Defense has indicated that they will make available two battalions of 500 personnel each to serve as firefighting crews if needed in extreme conditions as was the case in 2000, when our needs exceed the available regularly mustered firefighters.

Additionally, if needed, additional firefighting resources are also available from other countries, using established agreements and protocols, particularly with southern hemisphere countries like Australia and New Zealand, where we have cooperative agreements to trade experienced management and oversight personnel, as our seasons are reverse from one another.

Going to aviation, as mentioned earlier, in May 2004, the Forest Service and the Bureau of Land Management terminated contracts for the 33 heavy airtankers, due to the National Transportation Safety Board recommendations about the airworthiness of the aircraft. An ongoing effort was commenced at that time to assure the airworthiness of the large tankers in July 2004. The airworthiness of eight P-3 Orions was determined and these planes were returned to service. When we stood down the airtankers in 2004, we reconfigured the fleet of firefighting aircraft and increased the use of single-engine tankers, large helitankers, and medium helicopters.

We also pre-positioned eight military C-130 aircraft, equipped with modular airborne firefighting systems, to areas of high fire danger, thereby reducing initial attack response times.

In calendar year 2004, the results of that reconfigured fleet were actually quite good and in fact superior to the results that we achieved in 2003 with all of the heavy airtankers available to us.

In 2003 we extinguished 98.3 percent of fires on initial attack, which is where the tankers are the most valuable. In 2004 we extinguished 99.1 percent of the fires on initial attack. That meant 70 fewer fires escaped initial attack, thereby decreasing firefighting costs significantly.

As the fire season in 2005 develops, we will continue to monitor the needs and reconfigure the fleet of firefighting aircraft as needed, with the goal of continuing to successfully suppress fires on initial attack.

To date, our 2005 aviation plan includes six heavy airtankers, six large helitankers and helicopters and more than 70 small and medium helicopters.

Through cooperative agreements with State and interagency partners, there are two exclusive use CL-215 airtankers, 28 exclusive use single-engine tankers, and approximately seven call-when-needed single-engine tankers. We expect that two to three call-when-needed CL-215s will also be available, and eight military C-130s will be available as well.

During the course of the year, we will continue to assess the safety of the airtankers that are currently grounded, the P-2Vs and the Douglas three, four, sixes and sevens. We have assessments underway which will be completed with the P-2Vs by the beginning

of June and with the Douglas products at some time later in the summer.

If those aircraft are deemed safe to fly, we will add them to the fleet and decommission some of the helicopters or alternative aircraft, since they are more expensive to operate.

If they are not deemed safe to fly, we will continue with the fleet as reconfigured in 2004, with the expectation that we will continue to achieve the level of success that we achieved in 2004, relative to previous years.

We did suffer a crash of a P-3 Orion, one of the ones that we deemed to be safe to fly, this past week. The NTSB Team is on-site now investigating the crash along with Forest Service personnel. It is far too early to indicate what the cause of the crash was. There is no indication at this time that the plane suffered structural failure in flight. But that does not mean that it did not happen, it just means we have not found evidence of that initially.

Here again, if we find no reason to ground the P-3s, we will continue to use them. If we have to ground the P-3s, then we will add on additional assets among helicopters and single-engine, fixed-wing airtankers.

The Forest Service and the Department of the Interior, together with our interagency partners, have initiated a long-term plan for reconfiguring our aviation resources, and I will be happy to talk with you during the question-and-answer period on that.

Last, situational awareness is the centerpiece of firefighter safety and for managing the unexpected on wildfires. Both Departments have significantly increased training programs, and we are continually evaluating the results. After the investigations of fatal fires in the last decade, we have implemented a number of changes. Classroom training, review of qualifications, on-the-job training, drills and after-action reports and reviews are part of the expanded safety program. Firefighters today must complete more comprehensive coursework that includes multiple training assignments and simulations before they are certified for critical fireline positions.

I will now turn to Assistant Secretary Scarlett to continue the balance of our statement.

Senator CRAIG. Lynn, please proceed.

Ms. SCARLETT. Thank you, Senator. Mr. Chairman, and members of the subcommittee, thank you for the opportunity to meet with you today.

I first want to join Mark in expressing my deep sense of sadness and our condolences at Interior for the loss of life that occurred as a result of last week's tragic airtanker crash.

As Mark noted, as we look ahead to the 2005 fire season, three themes characterize our efforts in wildland fire management. I am going to turn to those themes briefly and begin with management.

Our first effort under our management improvements pertains to planning. The Forest Service has completed fire management plans for all of the national forests and national grasslands. Interior has completed plans for the vast majority of lands it manages and plans to complete all of them in the remainder of this year. These new plans will enable us to increase the use of wildland fire to accomplish land management objectives in pre-defined geographic

areas. These plans will also ensure the appropriate response in each area.

A second management focus is firefighter safety. Both Departments have significantly increased training programs. We have improved classroom training, review of qualifications, on-the-job training, drills and situational awareness.

But perhaps the centerpiece of our management efforts has been a focus on the high costs of fire suppression, the third management focus. In 2003 we began interagency large fire cost reviews. In 2004 the Wildland Fire Leadership Council convened a strategic cost panel comprising senior State, local, tribal, and Federal representatives and incident team members, co-chaired by Mr. Caswell and Mr. Rowdabaugh. We very much appreciate their work on that effort.

The panel examined cost containment, including methods to better integrate suppression activities and considerations and vegetation management in a broader landscape context.

The panel issued a report in July 2004, with seven sets of recommendations. The Wildland Fire Leadership Council approved implementation of the majority of these recommendations, and we would be happy to discuss, in the question period, the status of those efforts. In 2005, for those incidents that meet certain size, cost and duration criteria, we will continue interagency large fire cost containment oversight.

Beyond management, another key to improving fire program management is access to relevant scientific information. I am pleased to say that our LANDFIRE project is proceeding on schedule. It is a multi-partner ecosystem and fuel assessment mapping project. It is designed to map and model vegetation, fire and fuels characteristics for the entire United States. It will provide us with consistent nationwide spatial data and predictive models needed by land and fire managers to better evaluate, prioritize, plan, complete and monitor fuels treatment and restoration projects. Two prototypes, one in Montana and one in Utah, are complete. We expect national delivery of LANDFIRE products to occur over the next 5 years, with the Western United States scheduled for completion in 2006. These data will help agencies focus their effort where the risk is greatest.

Let me conclude by focusing for a moment on the importance of collaboration in our fire program efforts. Collaboration lies at the heart of the Healthy Forests Restoration Act and the President's Healthy Forests Initiative.

To enhance collaboration, the National Association of State Foresters, National Association of Counties, Society of American Foresters, and the Western Governors' Association prepared a handbook to assist communities in identifying values, risks, mitigation measures and priorities for wildland fire projects.

The Forest Service is utilizing its State fire assistance program to work with States, local and tribal governments, and non-governmental organizations to enhance wildland fire prevention, hazard mitigation and fire suppression response. The Forest Service provides funding to State foresters for many of these activities. In 2005 the Forest Service will provide $73 million of this funding for those purposes. State and Federal land management agencies and

local communities are also using Community Wildland Fire Protection Plans to generate local solutions to hazardous fuels problems in the Wildland Urban Interface areas. Interior agencies have completed over 7,000 fuel reduction projects associated with risk assessments and mitigation plans or Community Wildland Fire Protection Plans in Wildland Urban Interface areas. These collaborative efforts are helping us achieve our fuels reduction goals. The Forest Service and the Department of the Interior agencies accomplished 4.2 million acres of hazardous fuel reduction in 2004, exceeding our targets by 13 percent. Thus far in 2005, about 1.6 million acres have been treated with hazardous fuels dollars. We are on target to meet all of our agency goals or exceed them. The Wildland Fire Leadership Council is working with the Western Governors' Association and others to develop monitoring protocols for fuels projects. Citizens will play a key role in helping us in these efforts.

I want to end by underscoring the importance of the Firewise program in which homeowners can protect their homes by creating cleared space and building their houses and landscaping their yard with fire resistant materials.

In conclusion, Mr. Chairman and members of the subcommittee, we are prepared for the 2005 fire season. We are happy to answer any questions you might have.

[The prepared statement of Mr. Rey and Ms. Scarlett follows:]

PREPARED STATEMENT OF MARK REY, UNDER SECRETARY FOR NATURAL RESOURCES AND ENVIRONMENT, DEPARTMENT OF AGRICULTURE, AND LYNN SCARLETT, ASSISTANT SECRETARY, POLICY, MANAGEMENT AND BUDGET, DEPARTMENT OF THE INTERIOR

INTRODUCTION

Mr. Chairman and members of the Subcommittee, thank you for the opportunity to meet with you today. Since the Department of the Interior (DOI) and the Department of Agriculture work closely together in fire management, the two agencies are providing a joint statement. We are pleased to be here today to review the Forest Service's and the Department of the Interior's (DOI) preparedness for the upcoming fire season. Three themes characterize our efforts in wildland fire management and hazardous fuels reduction—better management to ensure efficient use of resources; application of science to inform our decisions; and collaboration to leverage resources and ensure coordinated action.

The Forest Service and DOI continue to have available the resources, including firefighters, equipment, and aircraft, necessary to achieve a high rate of success in suppressing fires on initial attack. Our plans, as discussed below, ensure successful initial attack capability, with public and firefighter health and safety continuing to be our highest priority.

Though many areas across the United States have fire-adapted ecosystems, decades of vegetation build-up have resulted in overly dense tree stands and hazardous levels of underbrush. As a result, we face the challenging tasks of reducing fuels, restoring the health of our forests and rangelands, and reducing the vulnerability of our communities. These challenges are national and long term in scope. Meeting these challenges requires unprecedented levels of interagency cooperation among federal agencies and with state, tribal and local governments. To strengthen this cooperation, we continue to work through the Wildland Fire Leadership Council as a policy and implementation forum.

Of the three factors that most influence wildland fire behavior—weather, topography, and fuel—land managers can effectively influence only fuel. For much of the twentieth century, wildland fires were generally thought to be bad for the environment. As a consequence, fires were suppressed as soon as possible. Over time and across large areas, fire-adapted ecosystems changed as the amount and structure of shrubs and trees increased. The build up of vegetation, coupled with other factors such as long-term drought and the development of homes and communities next to

public lands, has led to increasing concerns about the both the health of our forests and rangelands and the risks to communities near these lands. Both the President's Healthy Forests Initiative and the bipartisan Healthy Forests Restoration Act recognize and help us address these challenges.

2005 SEASONAL WILDLAND FIRE OUTLOOK

The Predictive Services office at the National Interagency Fire Center (NIFC) provides an ongoing outlook for the fire season by monitoring weather conditions and other factors and reporting changing conditions. The reports increase in frequency as the fire season progresses. The preliminary outlook for the 2005 fire season shows normal fire potential in the southern and eastern states. Significant fire activity in the southwest is expected to occur mostly in the southern parts of Arizona and New Mexico at lower elevations. The potential for above-average fire activity exists in the northwest and northern Rocky Mountain States later this summer. Alaska is not expected to have another severe fire season like that of last year. Currently, the main threat for high fire potential is in the western Kenai Peninsula due to large areas of bug-killed spruce.

PREPAREDNESS

Predictive Services units located in each geographic area and at the national level provide integrated analysis and assessment of weather, climate and fuel conditions. This information supports local, geographic and national decisions about resource allocation based on anticipated fire starts, fire spread and severity. Local units identify required personnel, equipment, and supplies based on computer models that include local fire frequency and the resources at risk, such as homes or unique areas.

The closest local responders provide the initial fire attack. The closest available resource responds regardless of agency. Usually this is the agency with management jurisdiction and protection responsibility for the location of the fire, such as a national forest or national park. However, interagency agreements allow for response by the closest fire fighting entity.

In initial fire attacks, agencies use a variety of firefighting resources, including firefighters, engines, or a mixture of fixed-wing aircraft and helicopters. In recent years, agencies have succeeded in controlling 98 percent of fires through initial attack. If the fire continues to grow and locally available resources are inadequate, fire managers request additional resources.

Critical firefighting needs are coordinated through the National Interagency Coordination Center, located at the National Interagency Fire Center (NIFC) in Boise, Idaho. If fire-fighting resources are strained as a result of multiple simultaneous fires, resources are prioritized and allocated by the National Multi-Agency Coordinating group at NIFC. The National Multi-Agency Coordinating group consists of the national fire directors of all the Federal firefighting agencies and state representatives. These efforts ensure assets are appropriately positioned based on the most up to date information.

Firefighting resources include:

- Fulltime professional fire program leaders;
- Firefighters hired based on geographic area fire seasons;
- Federal agency personnel qualified and mobilized to perform incident management duties in addition to their normal responsibilities, often called the "militia";
- State and local personnel (including volunteer fire departments) through mutual aid agreements;
- Agency-owned equipment;
- Contract equipment, aircraft, and crews; and
- Firefighting personnel from other countries.

We expect to have firefighting resources comparable to those available last year. The number of firefighters usually peaks in late June as students become available following firefighter training.

More than 18,000 firefighters will be available, including permanent and seasonal Federal and State employees, crews from Tribal and local governments, contract crews, and emergency/temporary hires. Training and qualification systems for personnel are standardized nationally. There are 16 Type 1 (500 individuals or greater) national interagency incident management teams available for complex fires or incidents. Thirty-eight Type 2 (200 individuals or less) incident management teams are available for regional or national incidents. If local areas experience severe fire risk, we will increase firefighting ability by staging or deploying firefighters, equipment, and teams as needed.

In 2005, the Department of Defense will make available two battalions (500 personnel each) to serve as firefighting crews if needed in extreme conditions (where requests exceed the available firefighters). If needed, additional firefighting resources are also available through other countries using established agreements and protocols.

Personnel, equipment, aircraft, vehicles, and supplies are dispatched and tracked through a nationally integrated system. Supplemental personnel, equipment, and aircraft will be pre-positioned in specific locations when increased threats for fire starts are determined.

FIRE AVIATION

In May 2004, the Forest Service and Bureau of Land Management terminated the contracts for 33 heavy airtankers due to the National Transportation Safety Board recommendations about the airworthiness of the aircraft. In July 2004, airworthiness of eight P-3s was determined and these planes were returned to service. Tragically, one of these aircraft, a P-3 Orion, crashed on April 20 during a training flight, killing three crew members. The incident is under investigation by the National Transportation Safety Board. While this aircraft was not operating at that time under contract to the government, we are deeply saddened by this loss and wish to underscore the imperative of maintaining safety for all firefighting activities.

Heavy airtankers are one of the many tools that we use to suppress wildland fires. The primary role of heavy airtankers is to deliver a large amount of retardant rapidly, in the initial attack of a wildfire. We have increased our fleet of other firefighting aircraft to assist ground firefighters, particularly during extended attack. We also note that during any year, thousands of wildland fires are suppressed without the benefit of air support.

In 2004, we reconfigured the fleet of firefighting aircraft. We increased the use of Single Engine Airtankers (SEATs), large helitankers, and medium helicopters, and we pre-positioned the military C-130 aircraft equipped with Modular Airborne Firefighting Systems (MAFFS) to areas of high fire danger, thereby reducing initial attack response times. As fire season 2005 develops, we will continue to monitor needs and reconfigure the fleet of firefighting aircraft as needed with the goal of successfully suppressing fires upon initial attack.

To date, our 2005 aviation plan includes 6 heavy airtankers, 6 large helitankers and helicopters, and more than 70 small and medium helicopters. Through cooperative agreements with State and interagency partners, there are 2 exclusive use CL-215 airtankers, 28 Exclusive Use SEATS, and approximately 70 Call-When-Needed SEATS. We expect that two to three Call-When-Needed CL-215s will be available. Eight military C-130 aircraft equipped with the Modular Airborne Firefighting System (MAFFS) are also available.

The heavy airtankers will continue to be downloaded by 15% by weight of retardant as an extra precaution. All of the airtankers have been configured with traffic collision avoidance systems. In addition, three heavy airtankers will be returned to limited service to collect operational loads data to be used in determining the mechanical stresses of aerial firefighting. Operational loads monitoring equipment will be installed in all activated airtankers as additional safety and data gathering tools.

The Forest Service and DOI, together with interagency partners, have initiated a long-term plan for aviation resources.

MANAGEMENT IMPROVEMENTS

Recognizing that the fire program is both complex and uses significant resources, the agencies and Wildland Fire Leadership Council have taken and continue to take steps to implement recommendations of the Administration's Program Assessment Rating Tool (PART) evaluation to improve the effectiveness and efficiency with which we use resources.

Fire Management Plans

Consistent with the 2001 National Fire Policy, Fire Management Plans have been completed for all of the National Forests and National Grasslands and the vast majority of lands managed by DOI, with the exception of BLM-managed lands in Alaska which will be completed by the end of September 2005. These new plans will enable us to increase substantially the use of wildland fire to accomplish land management objectives in pre-defined geographic areas.

Post-fire activities are determined by an assessment of damage caused by the fire and suppression activities as soon as safely possible. Plans are created and implemented for immediate repair of damage caused by firefighting activities. Erosion

control and replanting activities are also conducted based on the assessment of the risk for erosion and invasive species.

Fire Safety

Situational awareness is the centerpiece of firefighter safety and for managing the unexpected on wildfires. Both Departments have significantly increased training programs, and we are continually evaluating the results. After the investigations of fatal fires in the last decade, we have implemented a number of changes. Classroom training, review of qualifications, on-the-job training, drills, discussions, and after-action reports and reviews are part of the expanded safety program. Firefighters today must complete more comprehensive coursework that includes multiple training assignments and simulations before they are certified for critical fireline positions.

Type 3 Incident Commanders (ICs) manage fires that have escaped initial attack using multiple resources. In reviewing the similarities among the incidents that led to fatalities over the last ten years, the Forest Service realized Type 3 ICs required a higher level of competency to oversee and manage more complex transitional fire operations. The Forest Service now requires Type 3 ICs to undergo real-time simulations to test their decision making skills under changing wildfire conditions. In 2004, every Forest Service Type 3 IC was required to be tested for proficiency in leadership and decision making skills. Every new Forest Service Type 3 IC must pass this proficiency test. In areas where Interior personnel work in close proximity to the Forest Service, many Interior Type 3 ICs took advantage of the Forest Service training and testing as well.

In fall 2004, the USDA Office of Inspector General (OIG) completed a review of the Forest Service Firefighting Safety Program. The report noted the Forest Service has made significant improvements in the safety of firefighting operations and had excellent written firefighting safety policies and procedures. The report identified four areas in which the agency can strengthen efforts to promote firefighter safety. The four areas that the OIG identified were: (1) monitoring the agency's response to fire safety recommendations, (2) maintaining centralized records to support firefighting qualifications, (3) conducting administrative investigations on serious fire accidents, and (4) incorporating firefighting safety standards as critical elements in firefighter performance evaluations.

Reviews such as the OIG report help us in our evaluations of firefighter safety. In cooperation with the Occupational Safety and Health Administration and other interagency partners through the National Wildfire Coordinating Group, we agree on areas of safety that need focus. For example, we improved our fire complexity analysis; enhanced training of agency administrators involved in fire suppression; emphasized fatigue awareness; and improved work/rest guidelines. We also clarified driving guidelines for both our employees and our contractors. We recently began the use of the Incident Qualifications Certification System which enhances our ability to track the formal training and on-the-job training of each federal firefighter and fire manager. With this system, fire managers and supervisors can better measure previous training and experience to help determine future training needs.

In addition, both Departments are concentrating on human factors such as experience, leadership, and performance. One major initiatives is our interagency Wildland Fire Leadership Development Program. The program comprises three major components that affect both firefighters and fire managers. The first is a set of leadership values and principles that define good leadership and provide a framework for evaluating the performance of firefighters in leadership roles. The second component is a curriculum of formal leadership development courses that are designed to span the career of wildland firefighters from entry levels to management. The third component is an on-line resource (*www.fireleadership.gov*) that assists individual firefighters seeking to improve their leadership skills through self-directed continuing education efforts. We emphasize preparing leaders to be capable decision-makers in the complex and intense situations found in firefighting.

On an interagency basis, the Fireline Safety Refresher Training is updated annually and is a required course for all fire personnel. The annual updates focus on key safety principles and key issues that surfaced in the preceding fire season. These updates are distributed nationwide to all agencies for use in required pre-season safety refresher courses.

Also, a Safety Summit and Human Factors Workshop is being held this week in Missoula, Montana. This summit, which has drawn hundreds of fire personnel from across the Nation, is focusing on leadership and human factors issues and training that we, as a group, believe contribute significantly to improved fire line safety and operational performance.

Contracted firefighting resources are additional assets for the agencies. We recognize our responsibilities for these resources and are working with the National Wildfire Coordinating Group to improve our interagency oversight to ensure safe, reliable performance.

Cost Containment

Interagency large-fire cost reviews, which began in 2003, continued in 2004. In 2004, the Wildland Fire Leadership Council convened a strategic cost panel comprising senior State, local, Tribal and Federal representatives and incident team members. The panel examined cost containment, including methods to better integrate suppression activities and vegetation management in a broader landscape context. The report, "Large Fire Suppression Costs, Strategies for Cost Management", was issued in July 2004. The report contains a variety of recommendations, many of which have the support of the Wildland Fire Leadership Council. A team assigned to design implementation actions will be reporting to the Wildland Fire Leadership Council in May.

Every year, the agencies prepare a Fire and Aviation Management Operations Action Plan. The Plan provides direction for suppression and includes direction for efficient coordination and cost containment.

In 2005, for those incidents that meet certain size, cost, and duration criteria, we will continue interagency large fire cost-containment oversight. In addition, the Forest Service asked the USDA Office of the Inspector General to conduct a large fire cost review in 2005. This review will look at decision making and cost containment practices. The Forest Service is assembling the internal and external review recommendations made over the past two years and will prioritize them based on their potential to improve efficiency and reduce costs. The Service will develop an implementation plan and track these recommendations.

Program Effectiveness

Finally, the Departments are continually working to improve program efficiency through a variety of means, including developing cost containment strategies, using data from established performance measures, integrating systems that implement cost reporting, prioritizing hazardous fuels projects, standardizing cost-sharing agreements, and reviewing recommendations made by an independent cost control review panel.

USE OF SCIENCE

Land managers are increasingly challenged by the need to justify decisions and apply scientifically sound solutions to firefighting as well as to on-the-ground land management. This need for science-informed decision making has always existed, but the demand is increasing as management agencies strive actively to address fuels problems and restore fire-adapted ecosystems. The need for new information and tools also is increasing as firefighting and treatments are applied in visible wildland urban interface areas and across larger areas of the landscape. As researchers develop information and tools to address these and other emerging issues, we are working to transfer rapidly and effectively these advances to managers so that work can be based on the best available information.

For example, the LANDFIRE project is a multi-partner ecosystem and fuel assessment mapping project. It is designed to map and model vegetation, fire, and fuels characteristics for the United States. The objective is to provide consistent, nationwide spatial data and predictive models needed by land and fire managers to evaluate, prioritize, plan, complete, and monitor fuel treatment and restoration projects. Two prototypes, in Montana and Utah, are complete. We expect to complete this year a rapid assessment of fire regime condition class at the mid-scale. We expect national delivery of LANDFIRE products to occur over the next five years, with the western United States scheduled in 2006. These data will help agencies focus their effort where the risk is the greatest.

COLLABORATION: WHAT OUR PARTNERS ARE DOING

Collaboration lies at the heart of the Healthy Forests Restoration Act and President's Healthy Forests Initiative. A centerpiece of collaboration is in project selection and design. To enhance collaboration, the National Association of State Foresters, National Association of Counties (NACO), Society of American Foresters, and the Western Governors' Association (WGA) prepared a handbook—"Preparing a Community Wildfire Protection Plan"—in March 2004 to assist communities in identifying values, risks, mitigation measures, and priorities for wildland fire projects.

State and Federal land management agencies and local communities can use Community Wildfire Protection Plans (CWPPs) to bring about comprehensive and

locally-supported solutions to the hazardous fuels problem in the wildland urban interface (WUI). As described in the Healthy Forests Restoration Act, these community plans provide local communities the opportunity to become involved in planning for hazardous fuels treatment on Federal lands.

Interior agencies have completed over 7,000 fuel reduction projects associated with risk assessments and mitigation plans or Community Wildfire Protection Plans in WUI areas. The Bureau of Land Management places a high priority on assisting communities to complete Community Wildfire Protection Plans. Each state has a different approach. Some undertake their plans at the county level; others—like California—use a Fire Safe Council approach on a smaller geographic scale. Enough communities in Utah now have plans such that BLM is requiring all BLM wildland-urban interface projects to be identified in a completed Community Wildfire Protection Plan.

The Forest Service utilizes the State Fire Assistance (SFA) program to work with states, local and tribal governments and non-governmental organizations to enhance wildland fire prevention, hazard mitigation, and wildland fire suppression response. The Forest Service provides SFA funding to State Foresters to allocate for such tasks as coordinating wildland fire response, developing Community Wildfire Protection Plans, conducting hazardous fuel treatments in the wildland urban interface, and coordinating cross-boundary fuel treatment efforts. The Forest Service will provide $73,099,000 of SFA funding in 2005.

Collaboration goes beyond priority-setting to include project implementation. The Wildland Fire Leadership Council is working with the WGA and others on developing a monitoring protocol, including ways to monitor the extent of collaboration and cooperation.

Citizens can take action through the FIREWISE program, which helps people who live or vacation in fire-prone areas educate themselves about wildland fire protection. Homeowners can learn how to protect their homes with a survivable, cleared space and how to build their houses and landscape their yard with fire resistant materials. A consortium of wildland fire agencies sponsors the program; the consortium includes the Forest Service, the Department of the Interior, the National Fire Protection Association, and the National Association of State Foresters.

We also continue working to enhance collaboration in firefighting with rural and volunteer firefighters. In 2004, Interior bureaus invested over $9 million with nearly 1,500 rural fire departments. We invested another $10 million with local communities doing risk assessments, mitigation planning, and implementation actions like fuels treatments. So far in 2005, Interior has issued 40 awards totaling $332,000 in the rural fire assistance program, while dispensing another $1.3 million in community assistance. We again expect to help about 1,500 rural fire departments with equipment purchases and training using some $10 million in appropriated funds.

The Forest Service assists volunteer rural fire departments with funding for training, equipment and organization through the Volunteer Fire Assistance (VFA) program. In 2004, the Forest Service provided $13,445,000 in VFA funding to over 2,600 volunteer fire departments to assist in the establishment of new fire departments, train firefighters, and fund the purchase, repair and maintenance of equipment. In 2005, another $13,917,000 in funding is available to support volunteer fire departments through VFA, and the Forest Service expects to support a similar number of fire departments.

Some have expressed concerns about capacity for rural fire assistance going forward. We want to underscore that our commitment remains strong. Interior and the Forest Service expect to work closely with FEMA and its local fire assistance program to ensure that we are able to assist rural firefighting communities who contribute significantly to the wildland fire effort.

THE HEALTHY FORESTS INITIATIVE

We would also like to discuss briefly our progress in implementing the Healthy Forests Initiative. The President's Healthy Forests Initiative (HFI) includes both the Healthy Forest Restoration Act (HFRA) and administrative reforms that give federal agencies tools to reduce the risk of severe wildland fires and restore forest and rangeland health.

The HFRA complements administrative reforms put into place previously. These reforms help expedite hazardous fuel treatments and ecological restoration projects on federal land and are being successfully implemented. For example, hundreds of projects have proceeded using Categorical Exclusions, Guidance for Environmental Assessment of Healthy Forest Projects and Forest Stewardship Contracting.

The Forest Service and the Department of the Interior (DOI) agencies accomplished 4.2 million acres of hazardous fuel reduction in 2004. This includes 3.1 mil-

lion acres treated under the hazardous fuels program and another 1.1 million acres from other DOI and USDA vegetative management activities that also result in fuels reduction. Overall, we exceeded our acreage targets by 13%. Thus far in FY 2005, about 1.6 million acres have been treated with hazardous fuels dollars. About 1.0 million of those acres located in the Wildland-Urban Interface (WUI).

At the Interior Department, WUI acres now account for over 60 percent of dollars spent and, we expect, nearly half of all acres in 2006. This contrasts to 20 percent of fuels reduction efforts in 2001. In total, DOI and Forest Service will have completed nearly 9 million acres of fuels treatments in WUI areas between 2001 and 2006.

A more complete list of our accomplishments in 2005 can be found in the Healthy Forests Report located on the internet at *www.HealthyForests.gov*. The FY 2006 President's Budget proposes more than $867 million to continue our efforts.

The FY 2006 President's Budget proposes more than $867 million to continue our efforts.

SUMMARY

In conclusion, Mr. Chairman and members of the Subcommittee, we are prepared for the 2005 fire season. We are happy to answer any questions you might have.

Senator CRAIG. Lynn, thank you very much. I was sitting here thinking as you were talking about the fire mitigation. You do one million in a year and Mother Nature does six or eight million a year. She is ahead of you by a substantial factor.

Let us now turn to Robin Nazzaro, Director, Natural Resources and Environment, Government Accountability Office. Robin, you have two reports you wish to report on, so we will give you a little more time to do so. Please proceed.

STATEMENT OF ROBIN M. NAZZARO, DIRECTOR, NATURAL RESOURCES AND ENVIRONMENT, GOVERNMENT ACCOUNTABILITY OFFICE

Ms. NAZZARO. Thank you, Mr. Chairman and members of the subcommittee. I am pleased to be here today to discuss two recent GAO reports that address wildland fire issues.

The first report, issued in January of this year, discusses the progress the Federal Government has made over the past 5 years and key challenges it faces in developing and implementing a long-term response to wildland fire problems.

The second report, being released today, discusses ways to help protect homes and improve communications during such fires.

As has been noted, wildland fires are increasingly threatening communities and ecosystems. When a large, high intensity fire burns near inhabited areas, it can threaten hundreds of homes at the same time and overwhelm firefighting resources. Also, communications among Federal, State and local firefighters during wildland fires can be hampered by incompatible equipment.

First, let me summarize the findings of the January 2005 report. In the past 5 years, the Forest Service and the land management agencies in the Department of the Interior, working with the Congress, have made important progress in putting into place the basic components for a framework for managing and responding to the Nation's wildland fire problems.

Specifically, we noted that they have established a priority to protect communities near wildlands. They have increased the amount of effort and funds available for addressing wildland fire problems, improved data and research on wildland fire, local fire management plans, interagency coordination, and collaboration

with non-Federal partners, and refined performance measures and results monitoring for wildland fire management.

While this progress has been important, many challenges remain for addressing wildland fire problems in a timely and effective manner. Most notably, GAO believes that the land management agencies need to complete a cohesive strategy that identifies the long-term options and related funding needed for reducing fuels and responding to wildland fires. As the Government Accountability Office noted in 1999, the agencies and the Congress need such a strategy to make decisions about an effective and affordable long-term approach for addressing problems that have been decades in the making and will take decades more to resolve. Completing and implementing such a strategy will require that the agencies complete several challenging tasks, including finishing their data systems needed to identify the extent, severity and location of wildland fire threats to the Nation's communities and ecosystems; updating local fire management plans to better specify actions needed to effectively address these threats; and assessing the cost-effectiveness and affordability of options for reducing fuels.

In our January report, we recommended that the Secretaries of Agriculture and the Interior provide the Congress, in time for its consideration of the agencies' fiscal year 2006 wildland fire management budgets, with a joint tactical plan outlining the critical steps the agencies will take, together with related timeframes, to complete a cohesive strategy that identifies long-term options and needed funding for reducing and maintaining fuels at acceptable levels and responding to the Nation's wildland fire problems. The Departments of Agriculture and the Interior have said that they will produce such a joint tactical plan by August of this year.

Next, I will summarize the findings of our report being released today that discusses measures to help protect homes and the role that technology plays in improving firefighting agencies' abilities to communicate during wildland fires. Our findings are based on the views of a panel of experts that we convened with the help of the National Academies of Science and in discussions with Federal, State and local fire officials.

In summary, we found that the two most effective measures for protecting structures from wildland fires are: One, creating and maintaining a buffer around a structure by eliminating or reducing trees, shrubs and other flammable objects within an area from 30 to 100 feet around the structure, and, two, using fire resistant roofs and vents. Experts we spoke with said that if these measures were correctly and consistently used by homeowners, the risk posed by wildland fires would be significantly reduced. Other technologies can help to protect structures, but to a lesser degree. These include fire resistant windows and building materials, sprinkler systems, and chemical agents in the form of gels and foams that coat structures with a temporary protective layer. Although protective measures are effective and available, many homeowners do not use them because of the time or expense involved, competing values or concerns, misperceptions about wildland fires, and lack of awareness of homeowners shared responsibility for home protection.

Federal, State, and local government agencies and non-governmental organizations are attempting to increase the use of protec-

tive measures through education, financial or direct assistance, and adoption and enforcement of laws requiring defensible space around structures and the use of fire resistant building materials.

Regarding the role that technology plays in improving firefighting agencies' ability to communicate during wildland fires, we found that a variety of technologies exist and others are being developed. But technology alone will not solve this problem. In the short term, patchwork interoperability technologies, such as audio switches, can be used to link communications using different radio frequencies or equipment. In the long term, technologies are available or under development to upgrade communication systems to provide increased interoperability. Effective adoption of any of these technologies, however, requires planning and coordination among Federal, State and local agencies. The Department of Homeland Security, as well as several State and local jurisdictions, are pursuing initiatives to improve communications.

Catastrophic damages from wildland fires will probably continue to increase until an adequate long-term Federal response, coordinated with other levels of government, is implemented, and individuals living in at-risk areas take preventive measures to protect their homes from wildland fires.

Effective communication among the many agencies that assist in the management or suppression of wildland fires is also essential to fighting these fires successfully and ensuring both firefighter and public safety.

Mr. Chairman, this concludes my statement. I would be happy to respond to any questions you or members of the subcommittee may have.

[The prepared statement of Ms. Nazzaro follows:]

PREPARED STATEMENT OF ROBIN M. NAZZARO, DIRECTOR, NATURAL RESOURCES AND ENVIRONMENT, GOVERNMENT ACCOUNTABILITY OFFICE

WHY GAO DID THIS STUDY

Wildland fires are increasingly threatening communities and ecosystems. In recent years, they have become more intense due to excess vegetation that has accumulated, partly as a result of past suppression efforts. The cost to suppress these fires is increasing and, as more people move into fire-prone areas near wildlands, the number of homes at risk is growing. During these wildland fires, effective communications among the public safety agencies responding from various areas is critical, but can be hampered by incompatible radio equipment.

This testimony discusses (1) progress made and future challenges to managing wildland fire, (2) measures to help protect structures, and (3) the role of technology in improving responder communications during fires. It is based on two GAO reports: *Wildland Fire Management: Important Progress Has Been Made, but Challenges Remain to Completing a Cohesive Strategy* (GAO-05-147, Jan. 14, 2005) and *Technology Assessment: Protecting Structures and Improving Communications during Wildland Fires* (GAO-05-380, Apr. 26, 2005).

WHAT GAO RECOMMENDS

In its report, GAO recommended that the Departments of Agriculture and the Interior develop a plan for completing a cohesive strategy that identifies options and funding needed to address wildland fire problems. The departments agreed.

WHAT GAO FOUND

Over the last 5 years, the Forest Service in the Department of Agriculture and land management agencies in the Department of the Interior, working with the Congress, have made important progress in responding to wildland fires. Most notably, the agencies have adopted various national strategy documents addressing the

need to reduce wildland fire risks, established a priority to protect communities in the wildland-urban interface, and increased efforts and amounts of funding committed to addressing wildland fire problems. However, despite producing numerous planning and strategy documents, the agencies have yet to develop a cohesive strategy that identifies the long-term options and related funding needed to reduce excess vegetation that fuels fires in national forests and rangelands. Reducing these fuels lowers risks to communities and ecosystems and helps contain suppression costs. As GAO noted in 1999, such a strategy would help the agencies and the Congress to determine the most effective and affordable long-term approach for addressing wildland fire problems. Completing this strategy will require finishing several efforts now under way to improve a key wildland fire data and modeling system, local fire management planning, and a new system designed to identify the most cost-effective means for allocating fire management budget resources, each of which has its own challenges. Without completing these tasks, the agencies will have difficulty determining the extent and location of wildland fire threats, targeting and coordinating their efforts and resources, and resolving wildland fire problems in the most timely and cost-effective manner over the long term.

The two most effective measures for protecting structures from wildland fires are (1) creating and maintaining a buffer around a structure by eliminating or reducing trees, shrubs, and other flammable objects within an area from 30 to 100 feet around the structure and (2) using fire-resistant roofs and vents. Other technologies—such as fire-resistant building materials, chemical agents, and geographic information system mapping tools—can help in protecting structures and communities, but they play a secondary role. Many homeowners, however, are not using the protective measures because of the time or expense involved, competing values or concerns, misperceptions about wildland fires, or lack of awareness of their shared responsibility for home protection. Federal, state, and local governments and others are attempting to address this problem through a variety of educational, financial assistance, and regulatory efforts.

Technologies exist and others are being developed to address communications problems among emergency responders using different radio frequencies or equipment. However, technology alone cannot solve this problem. Effective adoption of these technologies requires planning and coordination among federal, state, and local agencies involved. The Department of Homeland Security, as well as several states and local jurisdictions, are pursuing initiatives to improve communications.

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss two GAO reports that reviewed several wildland fire issues—one issued in January 2005 that reviews the status of the federal government's efforts to address our nation's wildland fire problems and another, being released today, that discusses ways to help protect homes and improve communications during such fires. Each report is presented separately below.

Wildland fire is a natural process that plays an important role in the health of many fire-adapted ecosystems, but it also can cause catastrophic damages to communities and ecosystems. The trend of increasing wildland fire threats to communities and ecosystems that we reported on 5 years ago has been continuing. The average acreage of lands burned by wildland fires annually from 2000 through 2003 was 56 percent greater than the average amount burned annually during the 1990s. Also, since 2000, wildland fires have burned an average of 1,100 homes each year in the United States, according to the National Fire Protection Association. In 2003 alone, more than 3,600 homes were destroyed by wildland fires in Southern California and resulted in more than $2 billion in insured losses. Experts believe that catastrophic damages from wildland fires probably will continue to increase until an adequate long-term federal response, coordinated with other levels of government, is implemented and individuals living in at-risk areas take preventive measures to protect their homes from wildland fires.

WILDLAND FIRE MANAGEMENT: FOREST SERVICE AND INTERIOR NEED TO SPECIFY STEPS AND A SCHEDULE FOR IDENTIFYING LONG-TERM OPTIONS AND THEIR COSTS

First, let me summarize the findings of GAO's January 2005 report that discusses the progress the federal government has made over the last 5 years and key challenges it faces in developing and implementing a long-term response to wildland fire problems.[1] This report is based primarily on over 25 reviews we conducted in recent years of federal wildland fire management that focused largely on the activities of the Forest Service in the Department of Agriculture and the land management

[1] GAO, *Wildland Fire Management: Important Progress Has Been Made, but Challenges Remain to Completing a Cohesive Strategy*, GAO-05-147 (Washington, D.C.: Jan. 14, 2005).

agencies in the Department of the Interior, which together manage about 95 percent of all federal lands.

In the past 5 years, the federal government has made important progress in putting into place the basic components of a framework for managing and responding to the nation's wildland fire problems, including:

- establishing a priority to protect communities near wildlands—called the wildland-urban interface;
- increasing the amount of effort and funds available for addressing fire-related concerns, such as fuel reduction on federal lands;
- improving data and research on wildland fire, local fire management plans, interagency coordination, and collaboration with nonfederal partners; and
- refining performance measures and results monitoring for wildland fire management.

While this progress has been important, many challenges remain for addressing wildland fire problems in a timely and effective manner. Most notably, the land management agencies need to complete a cohesive strategy that identifies the long-term options and related funding needed for reducing fuels and responding to wildland fires when they occur. A recent Western Governors' Association report also called for completing such a cohesive federal strategy. The agencies and the Congress need such a strategy to make decisions about an effective and affordable long-term approach for addressing problems that have been decades in the making and will take decades more to resolve. However, completing and implementing such a strategy will require that the agencies complete several challenging tasks, including:

- developing data systems needed to identify the extent, severity, and location of wildland fire threats to the nation's communities and ecosystems;
- updating local fire management plans to better specify the actions needed to effectively address these threats; and
- assessing the cost-effectiveness and affordability of options for reducing fuels.

In our January 2005 report, we recommended that the Secretaries of Agriculture and the Interior provide the Congress, in time for its consideration of the agencies' fiscal year 2006 wildland fire management budgets, with a joint tactical plan outlining the critical steps the agencies will take, together with related time frames, to complete a cohesive strategy that identifies long-term options and needed funding for reducing and maintaining fuels at acceptable levels and responding to the nation's wildland fire problems. The Departments of Agriculture and the Interior have said that they will produce such a joint tactical plan by August 2005.

BACKGROUND

Wildland fire triggered by lightning is a normal, inevitable, and necessary ecological process that nature uses to periodically remove excess undergrowth, small trees, and vegetation to renew ecosystem productivity. However, various human land use and management practices, including several decades of fire suppression activities, have reduced the normal frequency of wildland fires in many forest and rangeland ecosystems and have resulted in abnormally dense and continuous accumulations of vegetation that can fuel uncharacteristically large and intense wildland fires. Such large intense fires increasingly threaten catastrophic ecosystem damage and also increasingly threaten human lives, health, property, and infrastructure in the wildland-urban interface. Federal researchers estimate that vegetative conditions that can fuel such fires exist on approximately 190 million acres—or more than 40 percent—of federal lands in the contiguous United States but could vary from 90 million to 200 million acres, and that these conditions also exist on many nonfederal lands.

Our reviews over the last 5 years identified several weaknesses in the federal government's management response to wildland fire issues. These weaknesses included the lack of a national strategy that addressed the likely high costs of needed fuel reduction efforts and the need to prioritize these efforts. Our reviews also found shortcomings in federal implementation at the local level, where over half of all federal land management units' fire management plans did not meet agency requirements designed to restore fire's natural role in ecosystems consistent with human health and safety. These plans are intended to identify needed local fuel reduction, preparedness, suppression, and rehabilitation actions. The agencies also lacked basic data, such as the amount and location of lands needing fuel reduction, and research on the effectiveness of different fuel reduction methods on which to base their fire management plans and specific project decisions. Furthermore, coordination among federal agencies and collaboration between these agencies and nonfederal entities were ineffective. This kind of cooperation is needed because wildland

fire is a shared problem that transcends land ownership and administrative boundaries. Finally, we found that better accountability for federal expenditures and performance in wildland fire management was needed. Agencies were unable to assess the extent to which they were reducing wildland fire risks or to establish meaningful fuel reduction performance measures, as well as to determine the cost-effectiveness of these efforts, because they lacked both monitoring data and sufficient data on the location of lands at high risk of catastrophic fires to know the effects of their actions. As a result, their performance measures created incentives to reduce fuels on all acres, as opposed to focusing on high-risk acres.

Because of these weaknesses, and because experts said that wildland fire problems could take decades to resolve, we said that a cohesive, long-term, federal wildland fire management strategy was needed.[2] We said that this cohesive strategy needed to focus on identifying options for reducing fuels over the long term in order to decrease future wildland fire risks and related costs. We also said that the strategy should identify the costs associated with those different fuel reduction options over time, so that the Congress could make cost-effective, strategic funding decisions.

IMPORTANT PROGRESS HAS BEEN MADE IN ADDRESSING FEDERAL WILDLAND FIRE MANAGEMENT PROBLEMS OVER THE LAST 5 YEARS

The federal government has made important progress over the last 5 years in improving its management of wildland fire. Nationally it has established strategic priorities and increased resources for implementing these priorities. Locally, it has enhanced data and research, planning, coordination, and collaboration with other parties. With regard to accountability, it has improved performance measures and established a monitoring framework.

Progress in National Strategy: Priorities Have Been Clarified and Funding Has Been Increased for Identified Needs

Over the last 5 years, the federal government has been formulating a national strategy known as the National Fire Plan, composed of several strategic documents that set forth a priority to reduce wildland fire risks to communities. Similarly, the recently enacted Healthy Forests Restoration Act of 2003 directs that at least 50 percent of funding for fuel reduction projects authorized under the act be allocated to wildland-urban interface areas. While we have raised concerns about the way the agencies have defined these areas and the specificity of their prioritization guidance, we believe that the act's clarification of the community protection priority provides a good starting point for identifying and prioritizing funding needs. Similarly, in contrast to fiscal year 1999, when we reported that the Forest Service had not requested increased funding to meet the growing fuel reduction needs it had identified, fuel reduction funding for both the Forest Service and Interior quadrupled by fiscal year 2004. The Congress, in the Healthy Forests Restoration Act, also authorized $760 million per year to be appropriated for hazardous fuels reduction activities, including projects for reducing fuels on up to 20 million acres of land. Moreover, appropriations for both agencies' overall wildland fire management activities, including preparedness, suppression, and rehabilitation, have nearly tripled, from about $1 billion in fiscal year 1999 to over $2.7 billion in fiscal year 2004.

Progress in Local Implementation: Data and Research, Fire Management Planning, and Coordination and Collaboration Have Been Strengthened

The agencies have strengthened local wildland fire management Implementation: Data and implementation by making significant improvements in federal data and research on wildland fire over the past 5 years, including an initial Management Planning, and mapping of fuel hazards nationwide. Additionally, in 2003, the agencies approved funding for development of a geospatial data and modeling system, called LANDFIRE, to map wildland fire hazards with greater precision and uniformity. LANDFIRE—estimated to cost $40 million and scheduled for nationwide implementation in 2009—will enable comparisons of conditions between different field locations nationwide, thus permitting better identification of the nature and magnitude of wildland fire risks confronting different community and ecosystem resources, such as residential and commercial structures, species habitat, air and water quality, and soils.

The agencies also have improved local fire management planning by adopting and executing an expedited schedule to complete plans for all land units that had not been in compliance with agency requirements. The agencies also adopted a common

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[2] GAO, *Western National Forests: A Cohesive Strategy Is Needed to Address Catastrophic Wildfire Threats*. GAO/RCED-99-65. Washington, D.C.: Apr. 2, 1999.

interagency template for preparing plans to ensure greater consistency in their contents.

Coordination among federal agencies and their collaboration with nonfederal partners, critical to effective implementation at the local level, also has been improved. In 2001, as a result of congressional direction, the agencies jointly formulated a 10-Year Comprehensive Strategy with the Western Governors' Association to involve the states as full partners in their efforts. An implementation plan adopted by the agencies in 2002 details goals, time lines, and responsibilities of the different parties for a wide range of activities, including collaboration at the local level to identify fuel reduction priorities in different areas. Also in 2002, the agencies established an interagency body, the Wildland Fire Leadership Council, composed of senior Agriculture and Interior officials and nonfederal representatives, to improve coordination of their activities with each other and nonfederal parties.

Progress in Accountability: Better Performance Measures and a Results Monitoring Framework Have Been Developed

Accountability for the results the federal government achieves from its investments in wildland fire management activities also has been strengthened. The agencies have adopted a performance measure that identifies the amount of acres moved from high-hazard to low-hazard fuel conditions, replacing a performance measure for fuel reductions that measured only the total acres of fuel reductions and created an incentive to treat less costly acres rather than the acres that presented the greatest hazards. Additionally, in 2004, to have a better baseline for measuring progress, the Wildland Fire Leadership Council approved a nationwide framework for monitoring the effects of wildland fire. While an implementation plan is still needed for this framework, it nonetheless represents a critical step toward enhancing wildland fire management accountability.

AGENCIES FACE SEVERAL CHALLENGES TO COMPLETING A LONG-NEEDED COHESIVE STRATEGY FOR REDUCING FUELS AND RESPONDING TO WILDLAND FIRE PROBLEMS

While the federal government has made important progress over the past 5 years in addressing wildland fire, a number of challenges still must be met to complete development of a cohesive strategy that explicitly identifies available long-term options and funding needed to reduce fuels on the nation's forests and rangelands. Without such a strategy, the Congress will not have an informed understanding of when, how, and at what cost wildland fire problems can be brought under control. None of the strategic documents adopted by the agencies to date have identified these options and related funding needs, and the agencies have yet to delineate a plan or schedule for doing so. To identify these options and funding needs, the agencies will have to address several challenging tasks related to their data systems, fire management plans, and assessing the cost-effectiveness and affordability of different options for reducing fuels.

Completing and Implementing the LANDFIRE System Is Essential to Identifying and Addressing Wildland Fire Threats

The agencies face several challenges to completing and implementing LANDFIRE, so that they can more precisely identify the extent and location of wildland fire threats and better target fuel reduction efforts. These challenges include using LANDFIRE to better reconcile the effects of fuel reduction activities with the agencies' other stewardship responsibilities for protecting ecosystem resources, such as air, water, soils, and species habitat, which fuel reduction efforts can adversely affect. The agencies also need LANDFIRE to help them better measure and assess their performance. For example, the data produced by LANDFIRE will help them devise a separate performance measure for maintaining conditions on low-hazard lands to ensure that their conditions do not deteriorate to more hazardous conditions while funding is being focused on lands with high-hazard conditions.

In implementing LANDFIRE, however, the agencies will have to overcome the challenges presented by the current lack of a consistent approach to assessing the risks of wildland fires to ecosystem resources as well as the lack of an integrated, strategic, and unified approach to managing and using information systems and data, including those such as LANDFIRE, in wildland fire decision making. Currently, software, data standards, equipment, and training vary among the agencies and field units in ways that hamper needed sharing and consistent application of the data. Also, LANDFIRE data and models may need to be revised to take into account recent research findings that suggest part of the increase in wildland fire in recent years has been caused by a shift in climate patterns. This research also suggests that these new climate patterns may continue for decades, resulting in further increases in the amount of wildland fire. Thus, the nature, extent, and geo-

graphical distribution of hazards initially identified in LANDFIRE, as well as the costs for addressing them, may have to be reassessed.

Fire Management Plans Will Need to Be Updated with Latest Data and Will Need to Be Updated with Latest Data and Research on Wildland Fires

The agencies will need to update their local fire management plans when more detailed, nationally consistent LANDFIRE data become available. The plans also will have to be updated to incorporate recent agency fire Research on Wildland Fire research on approaches to more effectively address wildland fire threats. For example, a 2002 interagency analysis found that protecting wildland-urban interface communities more effectively—as well as more costeffectively—might require locating a higher proportion of fuel reduction projects outside of the wildland-urban interface than currently envisioned, so that fires originating in the wildlands do not become too large to suppress by the time they arrive at the interface. Moreover, other agency research suggests that placing fuel reduction treatments in specific geometric patterns may, for the same cost, provide protection for up to three times as many community and ecosystem resources as do other approaches, such as placing fuel breaks around communities and ecosystems resources. Timely updating of fire management plans with the latest research findings on optimal design and location of treatments also will be critical to the effectiveness and cost-effectiveness of these plans. The Forest Service indicated that this updating could occur during annual reviews of fire management plans to determine whether any changes to them may be needed.

Ongoing Efforts to Assess the Cost-Effectiveness and Affordability of Fuel Reduction Options Need to Be Completed

Completing the LANDFIRE data and modeling system and updating fire management plans should enable the agencies to formulate a range of options for reducing fuels. However, to identify optimal and affordable choices among these options, the agencies will have to complete certain cost-effectiveness analysis efforts they currently have under way. These efforts include an initial 2002 interagency analysis of options and costs for reducing fuels, congressionally-directed improvements to their budget allocation systems, and a new strategic analysis framework that considers affordability.

The Interagency Analysis of Options and Costs: In 2002, a team of Forest Service and Interior experts produced an estimate of the funds needed to implement eight different fuel reduction options for protecting communities and ecosystems across the nation over the next century. Their analysis also considered the impacts of fuels reduction activities on future costs for other principal wildland fire management activities, such as preparedness, suppression, and rehabilitation, if fuels were not reduced. The team concluded that the option that would result in reducing the risks to communities and ecosystems across the nation could require an approximate tripling of current fuel reduction funding to about $1.4 billion for an initial period of a few years. These initially higher costs would decline after fuels had been reduced enough to use less expensive controlled burning methods in many areas and more fires could be suppressed at lower cost, with total wildland fire management costs, as well as risks, being reduced after 15 years. Alternatively, the team said that not making a substantial short-term investment using a landscape focus could increase both costs and risks to communities and ecosystems in the long term. More recently, however, Interior has said that the costs and time required to reverse current increasing risks may be less when other vegetation management activities—such as timber harvesting and habitat improvements—are considered that were not included in the interagency team's original assessment but also can influence wildland fire.

The cost of the 2002 interagency team's option that reduced risks to communities and ecosystems over the long term is consistent with a June 2002 National Association of State Foresters' projection of the funding needed to implement the 10-Year Comprehensive Strategy developed by the agencies and the Western Governors' Association the previous year. The state foresters projected a need for steady increases in fuel reduction funding up to a level of about $1.1 billion by fiscal year 2011. This is somewhat less than that of the interagency team's estimate, but still about 2½ times current levels.

The interagency team of experts who prepared the 2002 analysis of options and associated costs said their estimates of long-term costs could only be considered an approximation because the data used for their national-level analysis were not sufficiently detailed. They said a more accurate estimate of the long-term federal costs and consequences of different options nationwide would require applying this national analysis framework in smaller geographic areas using more detailed data,

such as that produced by LANDFIRE, and then aggregating these smaller-scale results.

The New Budget Allocation System: Agency officials told us that a tool for applying this interagency analysis at a smaller geographic scale for aggregation nationally may be another management system under development—the Fire Program Analysis system. This system, being developed in response to congressional committee direction to improve budget allocation tools, is designed to identify the most cost-effective allocations of annual preparedness funding for implementing agency field units' local fire management plans. Eventually, the Fire Program Analysis system, being initially implemented in 2005, will use LANDFIRE data and provide a smaller geographical scale for analyses of fuel reduction options and thus, like LANDFIRE, will be critical for updating fire management plans. Officials said that this preparedness budget allocation system—when integrated with an additional component now being considered for allocating annual fuel reduction funding—could be instrumental in identifying the most cost-effective long-term levels, mixes, and scheduling of these two wildland fire management activities. Completely developing the Fire Program Analysis system, including the fuel reduction funding component, is expected to cost about $40 million and take until at least 2007 and perhaps until 2009.

The New Strategic Analysis Effort: In May 2004, Agriculture and Interior began the initial phase of a wildland fire strategic planning effort that also might contribute to identifying long-term options and needed funding for reducing fuels and responding to the nation's wildland fire problems. This effort—the Quadrennial Fire and Fuels Review—is intended to result in an overall federal interagency strategic planning document for wildland fire management and risk reduction and to provide a blueprint for developing affordable and integrated fire preparedness, fuels reduction, and fire suppression programs. Because of this effort's consideration of affordability, it may provide a useful framework for developing a cohesive strategy that includes identifying long-term options and related funding needs. The preliminary planning, analysis, and internal review phases of this effort are currently being completed and an initial report is expected in 2005.

The improvements in data, modeling, and fire behavior research that the agencies have under way, together with the new cost-effectiveness focus of the Fire Program Analysis system to support local fire management plans, represent important tools that the agencies can begin to use now to provide the Congress with initial and successively more accurate assessments of long-term fuel reduction options and related funding needs. Moreover, a more transparent process of interagency analysis in framing these options and their costs will permit better identification and resolution of differing assumptions, approaches, and values. This transparency provides the best assurance of accuracy and consensus among differing estimates, such as those of the interagency team and the National Association of State Foresters.

A RECENT WESTERN GOVERNORS' ASSOCIATION REPORT IS CONSISTENT WITH GAO'S FINDINGS AND RECOMMENDATION

In November 2004, the Western Governors' Association issued a report prepared by its Forest Health Advisory Committee that assessed implementation of the 10-Year Comprehensive Strategy, which the association had jointly devised with the agencies in 2001.[3] Although the association's report had a different scope than our review, its findings and recommendations are, nonetheless, generally consistent with ours about the progress made by the federal government and the challenges it faces over the next 5 years. In particular, it recommends, as we do, completion of a long-term federal cohesive strategy for reducing fuels. It also cites the need for continued efforts to improve, among other things, data on hazardous fuels, fire management plans, the Fire Program Analysis system, and cost-effectiveness in fuel reductions—all challenges we have emphasized today.

CONCLUSIONS

The progress made by the federal government over the last 5 years has provided a sound foundation for addressing the problems that wildland fire will increasingly present to communities, ecosystems, and federal budgetary resources over the next few years and decades. But, as yet, there is no clear single answer about how best to address these problems in either the short or long term. Instead, there are different options, each needing further development to understand the trade-offs among the risks and funding involved. The Congress needs to understand these op-

[3] *Report to the Western Governors on the Implementation of the 10-Year Comprehensive Strategy*, Western Governors' Association Forest Health Advisory Committee (Denver, Colo.: 2004).

tions and trade-offs in order to make informed policy and appropriations decisions on this 21st century challenge.

This is the same message we provided in 1999 when we first called for development of a cohesive strategy identifying options and funding needs. But it still has not been completed. While the agencies are now in a better position to do so, they must build on the progress made to date by completing data and modeling efforts underway, updating their fire management plans with the results of these data efforts and ongoing research, and following through on recent cost-effectiveness and affordability initiatives. However, time is running out. Further delay in completing a strategy that cohesively integrates these activities to identify options and related funding needs will only result in increased long-term risks to communities, ecosystems, and federal budgetary resources.

Because there is an increasingly urgent need for a cohesive federal strategy that identifies long-term options and related funding needs for reducing fuels, we have recommended that the Secretaries of Agriculture and the Interior provide the Congress, in time for its consideration of the agencies' fiscal year 2006 wildland fire management budgets, with a joint tactical plan outlining the critical steps the agencies will take, together with related time frames, to complete such a cohesive strategy.

In an April 2005 letter, Agriculture and Interior said that they will produce by August 2005, for the Wildland Fire Leadership Council's review and approval, a joint tactical plan that will identify the steps and time frames for developing a cohesive strategy.

WILDLAND FIRE: PROTECTING STRUCTURES AND IMPROVING COMMUNICATIONS

Next, I would like to summarize the findings of our second report, being released today, that discusses ways to help protect homes and improve communications during wildland fires. Although wildland fire is a natural process that plays an important role in the health of many fire-adapted ecosystems, it has the potential to damage or destroy homes located in or near these wildlands, in the area commonly called the wildland-urban interface. Since 1984, wildland fires have burned an average of 850 homes each year in the United States, according to the National Fire Protection Association. However, losses since 2000 have risen to an average of 1,100 homes annually. In 2003, more than 3,600 homes were destroyed by wildland fires in Southern California and resulted in more than $2 billion in insured losses.

Many homes are located in the wildland-urban interface nationwide, and the number is growing, although the risk to these homes from wildland fire varies widely. In California, for example, an estimated 4.9 million of the state's 12 million housing units are located in or near the wildlands, and 3.2 million of these are at significant risk from wildland fire.[4] As people continue to move to areas in or near fire-prone wildlands, the number of homes at risk from wildland fire is likely to grow. When a large high-intensity wildland fire occurs near inhabited areas, it can threaten hundreds of homes at the same time and overwhelm available firefighting resources. Homeowners can play an important role in protecting their homes from a wildland fire, however, by taking preventive steps to reduce their home's ignition potential. These preventive measures can significantly improve a home's chance of surviving a wildland fire, even without intervention by firefighting agencies.

Once a wildland fire starts, many different agencies may assist in the efforts to manage or suppress it, including the Forest Service (within the Department of Agriculture); land management agencies in the Department of the Interior; state forestry agencies; local fire departments; private contract firefighting crews; and, in some cases, the military. Effective communications among responders commonly called communications interoperability—is essential to fighting wildland fires successfully and ensuring both firefighter and public safety. Communications interoperability can be hampered because the various agencies responding to a fire may communicate over different radio frequency bands or with incompatible communications equipment.

My testimony today summarizes key findings from our report released today[5] and addresses: (1) measures that can help protect structures from wildland fires, (2) factors affecting the use of these protective measures, and (3) the role that technology

[4] California Department of Forestry and Fire Protection, *The Changing California: Forest and Range 2003 Assessment* (Sacramento, Calif.: 2003).

[5] GAO, *Technology Assessment: Protecting Structures and Improving Communications during Wildland Fires*, GAO-05-380 (Washington, D.C.: Apr. 26, 2005).

plays in improving firefighting agencies' ability to communicate during wildland fires.[6]

SUMMARY

In summary, we found the following:

- The two most effective measures for protecting structures from wildland fires are: (1) creating and maintaining a buffer around a structure—often called defensible space—by eliminating or reducing trees, shrubs, and other flammable objects within an area from 30 to 100 feet around the structure and (2) using fire-resistant roofs and vents. Other technologies, such as fire-resistant windows and building materials, sprinkler systems, and chemical agents (gels and foams) that coat structures with a temporary protective layer can also help protect structures, but they play a secondary role. In addition, technologies, such as geographic information systems (GIS) are available or under development to assist in fire protection at the community level.
- Although protective measures are effective and available, many homeowners do not use them for four main reasons: time or expense involved, competing values or concerns, misperceptions about wildland fires, and lack of awareness of homeowners' shared responsibility for home protection. Federal, state, and local government agencies and nongovernmental organizations are taking steps to increase the use of protective measures through education, financial or direct assistance, and adoption and enforcement of laws requiring defensible space around structures and the use of fire-resistant building materials.
- A variety of technologies exist, and others are being developed, to aid communications interoperability between emergency responders, including firefighters, but technology alone cannot solve this problem. In the short-term, patchwork interoperability technologies, such as audio switches, can be used to link communication systems using different radio frequencies or equipment. In the long-term, technologies are available or under development to upgrade communications systems to provide increased interoperability. Effective adoption of any of these technologies, however, requires planning and coordination among federal, state, and local agencies that work together to respond to wildland fires and other emergencies.

BACKGROUND

To understand how preventive steps can help protect homes from wildland fire requires an understanding of what wildland fire is, how it spreads, and how it can threaten homes. Fire requires three elements—oxygen, heat, and fuel—to ignite and continue burning. Once a fire has begun, a number of factors—including weather conditions and the type of nearby vegetation or other fuels—influence how fast and how intensely the fire spreads. Any combustible object in a fire's path, including homes, can fuel a wildland fire. In fact, homes can sometimes be more flammable than the trees, shrubs, or other vegetation surrounding them. If any one of the three required elements are removed, however, such as when firefighters remove vegetation and other fuels from a strip of land near a fire—called a fire break—a fire will normally become less intense and eventually die out.

Wildland fire can threaten homes or other structures in the following ways:

- *Surface fires* burn vegetation or other fuels near the surface of the ground, such as shrubs, fallen leaves, small branches, and roots. These fires can ignite a home by burning nearby vegetation and eventually igniting flammable portions of the home, including exterior walls or siding; attached structures, such as a fence or deck; or other flammable materials, such as firewood or patio furniture.
- *Crown fires* burn the tops, or crowns, of trees. Crown fires normally begin as surface fires and move up the trees by burning "ladder fuel," such as nearby shrubs or low tree branches. Crown fires create intense heat and if close enough—within approximately 100 feet—can ignite portions of structures even without direct contact from flames.
- *Spot fires* are started by embers, or "firebrands," that can be carried a mile or more away from the main fire, depending on wind conditions. Firebrands can ignite a structure by landing on the roof or by entering a vent or other opening and may accumulate on or near homes. Firebrands can start many new spot fires or ignite many homes simultaneously, increasing the complexity of firefighting efforts.

[6] Our report also includes information on the use of military resources for wildland firefighting.

Recognizing that during severe wildland fires, suppression efforts alone cannot protect all homes threatened by wildland fire, firefighting and community officials are increasing their emphasis on preventive approaches that help reduce the chance that wildland fires will ignite homes and other structures. Because the vast majority of structures damaged or destroyed by wildland fires are located on private property, the primary responsibility for taking adequate steps to minimize or prevent damage from a wildland fire rests with the property owner and with state and local governments that can establish building requirements and land-use restrictions.

When a wildland fire occurs, personnel from firefighting and other emergency agencies responding to it primarily use land mobile radio systems for communications. These systems include mobile radios in vehicles and hand-held portable radios and operate using radio signals, which travel through space in the form of waves. These waves vary in length, and each wavelength is associated with a particular radio frequency.[7] Radio frequencies are grouped into bands. Of the more than 450 frequency bands in the radio spectrum, 10, scattered across the spectrum, are allocated to public safety agencies. A firefighting or public safety agency typically uses a radio frequency band appropriate for its locale, either rural or urban. Bands at the lower end of the radio spectrum, such as VHF (very high frequency), work well in rural areas where radio signals can travel long distances without obstruction from buildings or other structures. Federal firefighting agencies, such as the Forest Service, and many state firefighting agencies operate radios in the VHF band. In urban areas, firefighting and other public safety agencies may operate radios on higher frequencies, such as those in the UHF (ultrahigh frequency) or 800 MHz bands, because these frequencies can provide better communications capabilities for an urban setting. When federal, state, and local emergency response agencies work together, for example to fight a fire in the wildland-urban interface, they may not be able to communicate with one another because they operate in different bands along the radio frequency spectrum.

DEFENSIBLE SPACE AND FIRE-RESISTANT ROOFS AND VENTS ARE KEY TO PROTECTING STRUCTURES; OTHER TECHNOLOGIES CAN ALSO HELP

Managing vegetation and reducing or eliminating flammable objects—often called defensible space—within 30 to 100 feet of a structure is a key protective measure. Creating such defensible space offers protection by breaking up continuous fuels that could otherwise allow a surface fire to contact and ignite a structure. Defensible space also offers protection against crown fires. Reducing the density of large trees around structures decreases the intensity of heat from a fire, thus preventing or reducing the chance of ignition and damage to structures. Analysis of homes burned during wildland fires has shown defensible space to be a key determinant of whether a home survives. For instance, the 1981 Atlas Peak Fire in California damaged or destroyed 91 out of 111 structures that lacked adequate defensible space but only 5 structures out of 111 that had it.

The use of fire-resistant roofs and vents is also important in protecting structures from wildland fires. Many structures are damaged or destroyed by firebrands that can travel a mile or more from the main fire. Firebrands can land on a roof or enter a home through an opening, such as an attic vent and ignite a home hours after the fire has passed. Fire-resistant roofing materials can reduce the risk that these firebrands will ignite a roof, and vents can be screened with mesh to prevent firebrands from entering and igniting attics. Combining fire-resistant roofs and vents with the creation of defensible space is particularly effective, because together these measures reduce the risk from surface fires, crown fires, and firebrands.

Other technologies can also help protect individual structures from wildland fires.

- *Fire-resistant windows* constructed of double-paned glass, tempered glass, or glass block help protect a structure from wildland fire by reducing the risk of the window breaking and allowing fire to enter the structure.
- *Fire-resistant building materials*—such as fiber-cement, brick, stone, metal, and stucco—can be used for walls, siding, decks, and doors to help prevent ignition and subsequent damage from wildland fire.
- *Chemical agents*, such as foams and gels, are temporary protective measures that can be applied as an exterior coating shortly before a wildland fire reaches a structure. Although these agents have successfully been used to protect homes, such as during the Southern California fires in 2003, they require that someone be available to apply them and, possibly, reapply or rewet them to ensure they remain effective. They can also be difficult to clean up.

[7] Radio frequencies are measured in Hertz (Hz); the term *kilohertz* (kHz) refers to thousands of Hertz, *megahertz* (MHz) to millions of Hertz, and *gigahertz* (GHz) to billions of Hertz.

- *Sprinkler systems*, which can be installed inside or outside a structure, lower the risk of ignition or damage from wildland fires. Sprinklers, however, require reliable sources of water and, in some cases, electricity to be effective. According to firefighting officials, adequate water and electricity may not be available during a wildland fire.

In addition to technologies aimed at protecting individual structures, technologies also exist or are being developed which can help reduce the risk of wildland fire damage to an entire community.

- *GIS* is a computer-based information system that can be used to efficiently store, analyze, and display multiple forms of information on a single map.[8] GIS technologies allow fire officials and local and regional land managers to combine vegetation, fuel, and topography data into separate layers of a single GIS map to identify and prioritize areas needing vegetation management. State and county officials we met with emphasized the value of GIS in community-planning efforts to protect structures and communities from wildland fire damage within their jurisdictions.
- *Fire behavior modeling* has been used to predict wildland fire behavior, but these models do not accurately predict fire behavior in the wildland-urban interface. Existing models can help identify areas likely to experience intense wildland fires, identify suitable locations for vegetation management, predict the effect of vegetation treatments on fire behavior, and aid suppression by predicting the overall behavior of a given fire. These models do not, however, consider the effect that structures and landscaping have on wildland fire behavior.
- *Automated detection systems* use infrared, ultraviolet, or temperature-sensitive sensors[9] placed around a community, or an individual home, to detect the presence of a wildland fire. On detecting a fire, a sensor could set off an audible alarm or could be connected via radio or satellite to a device that would notify homeowners or emergency personnel. Several such sensors could be networked together to provide broad coverage of the area surrounding a community. According to fire officials, sensor systems may prove particularly helpful in protecting communities in areas of rugged terrain or poor access where wildland fires might be difficult to locate. These systems are still in development, however, and false alarms are a concern.

TIME, EXPENSE, AND OTHER COMPETING CONCERNS LIMIT THE USE OF PROTECTIVE MEASURES FOR STRUCTURES, BUT EFFORTS TO INCREASE THEIR USE ARE UNDER WAY

Many homeowners have not used protective measures—such as creating and maintaining defensible space—for four primary reasons:

- *Time or expense.* State and local fire officials estimate that the price of creating defensible space can range from negligible, in cases where homeowners perform the work themselves, to $2,000 or more. Moreover, defensible space needs to be maintained, resulting in additional effort or expense in the future. Further, while fire-resistant roofing materials are available that are comparable in cost to more flammable options and, for a home under construction may result in no additional expense, replacing a roof on an existing home can cost thousands of dollars.
- *Competing concerns.* Although modifying landscaping to create defensible space has proven to be a key element in protecting structures from wildland fire, officials and researchers have reported that some homeowners are more concerned about the effect landscaping has on the appearance and privacy of their property, as well as on habitat for wildlife.
- *Misconceptions about wildland fire behavior.* Fire officials and researchers told us that some homeowners do not recognize that a structure and its surroundings constitute fuel that contributes to the spread of wildland fire or understand exactly how a wildland fire ignites structures. Further, they may not know that they can take effective steps to reduce their risk.
- *Lack of awareness of homeowners' responsibility.* Fire officials told us that some homeowners in the wildland urban interface may expect the same level of service they received in more urban areas and do not understand that rural areas may have less firefighting personnel and equipment and longer response times.

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[8] For additional information on how GIS can assist wildland fire management, see: GAO, *Geospatial Information: Technologies Hold Promise for Wildland Fire Management, but Challenges Remain*, GAO-03-1047 (Washington, D.C.: Sept. 23, 2003).

[9] Infrared and ultraviolet technologies sense the electromagnetic radiation from a fire outside the visible band that humans can see. Temperature sensitive devices, such as heat sensitive resistant wires, do not sense radiation but react to temperature differentials.

Also, when a wildland fire burns near communities, so many houses may be threatened simultaneously that firefighters may be unable to protect all of them.

Federal, state, and local agencies and other organizations are taking steps in three main areas to help increase the use of protective measures.[10] First, government agencies and other organizations are educating people about the effectiveness of simple steps they can take to reduce the risk to homes and communities. The primary national education effort is the Firewise Communities program,[11] which both educates homeowners about available protective measures and also promotes additional steps that state and local officials can take to educate homeowners. Education efforts help demonstrate that defensible space can be attractive, provide privacy, and improve wildlife habitat.

Second, some federal, state, and local agencies are directly assisting homeowners in creating defensible space by providing equipment or financial assistance to reduce fuels near structures. Under the National Fire Plan,[12] for instance, federal firefighting agencies provide grants or otherwise assist in reducing fuels on private land. State and local governments have provided similar assistance.

Third, some state and local governments have adopted laws that require maintaining defensible space around structures or the use of fire-resistant building materials. For example, California requires the creation and maintenance of defensible space around homes and the use of fire-resistant roofing materials in certain at-risk areas. Officials of one county we visited attributed the relatively few houses damaged by the 2003 Southern California fires in the county, in part, to its adoption and enforcement of laws requiring defensible space and the use of fire-resistant building materials. Not all states or localities at risk of wildland fire, however, have required such steps. Some state and local officials told us that laws had not been adopted because homeowners and developers resisted them. Furthermore, to be effective, laws that have been adopted must be enforced, and this does not always happen.

EFFECTIVE ADOPTION OF TECHNOLOGIES TO ACHIEVE COMMUNICATIONS INTEROPERABILITY REQUIRES BETTER PLANNING AND COORDINATION

Technologies are available or under development to help improve communications interoperability so that personnel from different public safety agencies responding to an emergency, such as a wildland fire, can communicate effectively with one another. Short-term, or patchwork, interoperability solutions use technology to interconnect two or more disparate radio systems so that voice or data from one system can be made available to all systems. The principal advantage of this solution is that agencies can continue to use existing communications systems, an important consideration when funds to buy new equipment are limited. Patchwork solutions include the following:

- *Audio switches* that provide interoperability by connecting radio and other communications systems to a device that sends the audio signal from one agency's radio to all other connected radio systems. Audio switches can interconnect several different radio systems, regardless of the frequency bands or type of equipment used.
- *Crossband repeaters* that provide interoperability between systems operating on different radio frequency bands by changing frequencies between the two radio systems.
- *Console-to-console patches* that are not "on-the-scene" devices but instead connect consoles located at the dispatch centers where calls for assistance are re-

[10] In addition, some insurance companies also direct homeowners in high-risk areas to create defensible space. Historically, the insurance industry has not placed a high priority on wildland fire issues because of relatively low losses compared with other hazards, such as hurricanes or earthquakes.

[11] Firewise Communities is jointly sponsored by the International Association of Fire Chiefs, National Emergency Management Association, National Association of State Fire Marshals, National Association of State Foresters, National Fire Protection Association, Federal Emergency Management Agency, U.S. Fire Administration, Forest Service, Bureau of Indian Affairs, Bureau of Land Management, Fish and Wildlife Service, and the National Park Service. Numerous state and local fire and forestry officials also participate in Firewise program activities.

[12] The National Fire Plan was developed by the Department of Agriculture and the Department of the Interior after severe wildland fires in 2000. In fiscal year 2001, Congress almost doubled funding for federal firefighting agencies to help meet the plan's objectives to (1) increase fire suppression preparedness; (2) rehabilitate and restore lands and communities damaged by wildland fire; (3) reduce hazardous fuels; and (4) assist communities through education, hazard mitigation, and training and equipment for rural and volunteer fire departments.

ceived. The device links the dispatch consoles of two radio systems so that the radios connected to each system can communicate with one another.

Other interoperability solutions involve developing and adopting more sophisticated radio or communications systems that follow common standards or can be programmed to work on any frequency and to use any desired modulation type, such as AM or FM. These include:

- *Project 25 radios*, which must meet a set of standards for digital two-way radio systems that allow for interoperability between all jurisdictions using these systems. These radios are beginning to be adopted by a variety of federal, state, and local agencies.
- *Software-defined radios* that will allow interoperability among agencies using different frequency bands, proprietary systems from different manufacturers, or different modulation types (such as AM or FM). Software-defined radios, however, are still being developed and are not yet available for use by public safety agencies.
- *Voice over Internet Protocol* that treats both voice and data as digital information and enables their movement over any existing Internet Protocol data network.[13] No standards exist for radio communications using Voice over Internet Protocol, and, as a result, manufacturers have produced proprietary systems that may not be interoperable.

Whether the solution is a short-term patchwork approach or a long-term communications upgrade, officials we spoke with explained that planning and coordination among agencies are critical for successfully determining which technology to adopt and for agreeing on funding sources, timing, training, maintenance, and other key operational and management issues. State and local governments play an important role in developing and implementing plans for interoperable communications because they own most of the physical infrastructure for public safety systems, such as radios, base stations, repeaters, and other equipment. In the past, public safety agencies have depended on their own stand-alone communications systems, without considering interoperability with other agencies. Yet as firefighting and other public safety agencies increasingly work together to respond to emergencies, including wildland fires, personnel from different agencies need to be able to communicate with one another. Reports by GAO,[14] the National Task Force on Interoperability, and others have identified lack of planning and coordination as key reasons hampering communications interoperability among responding agencies. According to these reports, federal, state, and local government agencies have not worked together to identify their communications needs and develop a coordinated plan to meet them. Without such planning and coordination, new investments in communications equipment or infrastructure may not improve the effectiveness of communications among agencies.

In recent years, the federal government, as well as several states and local jurisdictions, have focused increased attention on improving planning and coordination to achieve communications interoperability. The Wireless Public Safety Interoperable Communications Program (SAFECOM), within the Department of Homeland Security's Office of Interoperability and Compatibility,[15] was established to address public safety communications issues within the federal government and to help state, local, and tribal public safety agencies improve their responses through more effective and efficient interoperable wireless communications. SAFECOM has undertaken a number of initiatives to enhance communications interoperability. For example, in a joint project with the commonwealth of Virginia, SAFECOM developed a methodology that could be used by states to assist them in developing a locally driven statewide strategic plan for enhancing communications interoperability. Several states have established statewide groups to address communications interoperability. For example, in Washington, the communications committee has developed a statewide public safety communication plan and an inventory of state government-operated public safety communications systems. Finally, some local jurisdictions are working together to identify and address communications interoperability issues.

Mr. Chairman, this concludes my prepared statement. I would be pleased to answer any questions that you or other Members of the Subcommittee may have at this time.

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[13] In some cases, this is the Internet; and in others, it is a private data network.

[14] See GAO, *Homeland Security: Challenges in Achieving Interoperable Communications for First Responders*, GAO-04-231T (Washington, D.C.: Nov. 6, 2003).

[15] The Wireless Public Safety Interoperable Communications Program, otherwise known as SAFECOM, was first established as an Office of Management and Budget e-initiative in 2001.

Senator CRAIG. Robin, thank you very much. Now let me turn to Jim Caswell, co-chair of the Western Fire Leadership Council's blue ribbon report on large fire suppression costs.

Jim.

Mr. CASWELL. Can I thank——

Senator CRAIG. I was going to say, Jim, and also Kirk Rowdabaugh. Why don't you proceed, both of you, as co-chairs, the order for your determination. Thank you.

Mr. CASWELL. Thank you, Mr. Chairman.

STATEMENT OF JAMES CASWELL, OFFICE OF SPECIES CONSERVATION, STATE OF IDAHO, ACCOMPANIED BY KIRK ROWDABAUGH, STATE FORESTER OF ARIZONA

Mr. CASWELL. Both Kirk and I thank you and Senator Wyden and the distinguished members of the subcommittee for the opportunity to appear and present testimony on the findings of the strategic issues panel on fire suppression costs.

This testimony is presented on behalf of the Western Governors' Association, and the lead Governors for fire-enforced health issues at the Western Governors' Association are Governor Napolitano of Arizona, and my Governor, and your former colleague, Governor Kempthorne of Idaho.

Kirk and I will share the testimony this afternoon, and the full text of our testimony has been provided to the subcommittee for the record. So, Kirk—I will let Kirk talk a little bit about the beginnings of our collaboration and how we developed the report.

Kirk.

Mr. ROWDABAUGH. Thank you, Chairman Craig, Senator Wyden, members of the subcommittee. The Western Governors' Association's interest in cost containment is to prevent escalating fire suppression costs from overwhelming the goals of the 10-year comprehensive strategy for reducing wildland fire risks to communities and the environment. The goals of that congressionally-requested report and the 10-year comprehensive strategy are to improve fire prevention and suppression, reduce hazardous fuels, restore fire-adapted ecosystems, and to promote community assistance.

High suppression costs drain funding from other proactive forest health and community protection efforts. The need to focus on large fire costs is clear. However, wildland fire suppression costs do not appear to be spiraling out of control, but instead seem to be increasing at roughly the same rate as overall government spending for the last two decades. Total suppression expenditures are strongly correlated with total acres burned and are overwhelmingly centered in large fire costs. Since 1980, large fires—those fires that are greater than 300 acres in size—represent less than 2 percent of all wildland fires reported, yet account for a whopping 94 percent of the total suppression expenditures.

The suite of indicators for future fire occurrence, that is the 35 million acres of unhealthy forests and hazardous fuels on Federal lands, the climate predictions for decades of continuing drought, the growth of rural communities in Western States and the expansion of the wildland urban interface and the societal expectations for those of us in emergency response agencies to protect our nat-

ural resources and our communities at risk, all of these point to more and large fires and expensive fires for the foreseeable future.

In short, there is no relief in sight for the primary drivers of large fire costs. Thus, cost management and the full implementation of the recommendations contained in this cost-containment report are imperative for meeting future land management goals.

The recommendations that Jim will review with you in just a second are strategic in nature. They are not designed to be tactical or operational, but they are designed to be complementary of each other and to reduce expected suppression expenditures in the future.

Mr. CASWELL. We had seven recommendations. Recommendation 1 deals with increasing the level of accountability and the interest for large fire costs and their impacts by allocation of suppression funds at a regional or equivalent level, depending on the agency.

Recommendation 2 dealt with land management planning, resource management planning, and directed that policy and direction incorporate cost management on large fires as these plans are developed.

No. 3 really talks about draw-down and how we pre-position forces around the country to deal with our upcoming fire season.

No. 4 was about training and using local resources in both initial response and development of Type 3 teams to have more resources available, both from local and tribal resources.

No. 5 dealt with the fuels management issue, future fire management cost considerations when planning all resource management projects. It is about the notion of points of control as opposed to perimeter control. It is about using fires that burn today and capitalize on that and create additional areas where we ought to do work so we can build on what nature has given us to deal with. It is about maintaining acres once they are in a proper state.

No. 6 deals with cost, data infrastructure and the fact that we have very poor cost accounting and the ability to determine what really are the principal drivers for large fires.

And the last one deals with losses averted and how we count or do a cost-effective measure for how suppression funds are spent, a benefit/cost sort of an approach, losses averted sort of an approach, as opposed to acres burned.

As far as where the status is right now, Assistant Secretary Lynn Scarlett addressed this a little bit. The report has been submitted to the two Secretaries by the Governors, and Western Governors' Association has adopted, with some caveats, the bulk of the recommendations.

Implementation plans are being developed, and next month when the Wildland Fire Leadership Council meets in the spring meeting, there will be a report on our progress since those decisions were made in December.

Thank you.

[The prepared statement of Mr. Caswell and Mr. Rowdabaugh follows:]

PREPARED STATEMENT OF JAMES CASWELL, OFFICE OF SPECIES CONSERVATION, STATE OF IDAHO, AND KIRK ROWDABAUGH, STATE FORESTER OF ARIZONA, CO-CHAIRMEN, STRATEGIC ISSUES PANEL ON FIRE SUPPRESSION COSTS, ON BEHALF OF THE WESTERN GOVERNORS' ASSOCIATION

Thank you, Chairman Craig, Senator Wyden and other distinguished members of this Subcommittee for the opportunity to appear and present testimony for today's hearing on wildfire and forest health issues. This testimony is presented on behalf of the Western Governors' Association. Lead governors for forest health issues at WGA are Governor Janet Napolitano of Arizona, and Governor Dirk Kempthorne of Idaho. WGA is an independent, non-partisan organization of Governors from 18 Western states and three U.S.-Flag Islands in the Pacific. We appreciate this opportunity to present the views of the WGA on the topic of large-fire suppression costs management.

THE NEED FOR COST CONTAINMENT

WGA has long-standing policy that it has pursed with the Administration and the Congress to prevent fire suppression costs from overwhelming the other proactive goals of the Congressionally requested "A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment, 10-Year Comprehensive Strategy."[1] The goals of the Strategy, adopted by the Secretaries of the Interior and Agriculture along with many others in 2001 and 2002, is to:

- Improve Fire Prevention and Suppression
- Reduce Hazardous Fuels
- Restore Fire-Adapted Ecosystems
- Promote Community Assistance[2]

For the nation to truly address the risk of catastrophic wildfires, all four of these goals must be pursued simultaneously and with equal fervor. This approach is, however, at particular risk of failure because of rising fire suppression costs that overwhelm the other goals of the Strategy.

Progress has been made since the 10-Year Strategy was approved, particularly in the areas of suppression and hazardous fuels. These successful efforts were recently reported to the governors by WGA's Forest Health Advisory Committee.[3] Despite this important progress, after five years of concerted effort, there are still hurdles facing our pursuit of the 10-Year Strategy goals.

In particular, wildland fire suppression expenditures have been increasing over the past two decades and have exceeded the $1 billion mark in three of the last five years. The states' share of spending on suppression has increased commensurately. These increasing costs for wildland fire suppression threaten to topple all the efforts of the National Fire Plan, 10-Year Strategy, Healthy Forests Initiative and Healthy Forests Restoration Act. Pervasive droughts, over-stocked forests, and an expanding wildland-urban interface will only exacerbate the societal, economic and natural impacts and costs of wildfire will continue to worsen.

High suppression costs drain funding for other proactive forest health management efforts called for by the forest health policies and programs mentioned above. Austere federal budget estimates make it more important than ever to pursue strategic containment of suppression costs. With forests, as with people, preventive medicine is the most cost efficient approach. For example, a recent Colorado State Uni-

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[1] WGA Policy Resolution 03-18 "Improving Forest and Rangeland Ecosystem Health in the West," section B2. "The active management and restoration treatments called for in the 10-Year Strategy will require substantial investment by all levels of government and private citizens if the agreed-to goals are to be achieved. While the Western Governors fully support the cost containment efforts the federal agencies have undertaken to control wildfire suppression costs, the Administration should request and the Congress should provide funding to fully implement the 10-Year Strategy while ensuring that proactive fuels reduction funds are not sacrificed in years of high suppression costs. By using proactive approaches called for in the 10-Year Strategy to reduce hazardous fuel, to restore ecosystems and to increase the capacity of our communities to assist, this nation can eventually reduce loss of life and property from wildfire catastrophes while lowering the tremendous suppression costs that are incurred." *http://www.westgov.org/wga/policy/03/foresthealth3-18.pdf*

[2] See "A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment, 10 Year Comprehensive Strategy Implementation Plan," May 2002 at *http://www.westgov.org/wga/initiatives/fire/implem_plan.pdf* and "A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment, 10-Year Comprehensive Strategy," August 2001 at *http://www.westcov.org/wga/initiatives/fire/final_fire_rpt.pdf.*

[3] See "WGA Forest Health Advisory Committee Report to the Western Governors on the Implementation of the 10-Year Strategy," November 2004 at *http://www.westgov.org/wga/initiatives/fire/tempe-report04.pdf.*

versity study put direct and indirect loses to people and the environment from Colorado's 2003 Hayman Fire at $230 million, or alternatively nearly $1,700/acre. In contrast, fuel reduction costs range from $200-$1500/acre, depending on proximity to homes in the wildland-urban interface.[4]

By using the proactive approaches called for in the 10-Year Strategy to reduce hazardous fuel, to restore ecosystems and to increase the capacity of our communities to assist, this nation can eventually reduce loss of life and property from wildfire catastrophes while lowering the tremendous suppression costs that are incurred.

THE STRATEGIC ISSUES PANEL ON FIRE SUPPRESSION COSTS

The Wildland Fire Leadership Council (WFLC), led by the Departments of the Interior and Agriculture, chartered the "Strategic Issues Panel on Fire Suppression Costs" (the "Panel") in early 2004 to "explore specific strategic issues associated with large fire costs, including the relationship of fire to vegetation management and land and resource management plans."[5] The need for focus on large fire costs is clear. Fire suppression expenditures are overwhelmingly centered in larger fires. "From 1980 through 2002 small fires (less than 300 acres) managed by the Forest Service totaled 98.6 % of the fires reported but represented only 6.2% of the total suppression expenditures. Larger fires (greater than 300 acres) represented 1.4% of the fires reported and a whopping 93.8% of the suppression expenditures."[6]

"Unwillingness to take greater risks [in operational fire suppression decision-making], unwillingness to recognize that suppression techniques are sometimes futile, the 'free' nature of wildland fire suppression funding, and public and political expectations are all potential contributors to the underlying causes for the high cost of large fires."[7]

The WFLC charter for the Panel explicitly identified five areas for examination:

1. Barriers and obstacles to cost containment;
2. Strategies for cost containment success;
3. Impediments to equitable sharing of suppression and cost apportionment among jurisdictions;
4. Criteria to measure cost containment success; and,
5. Relationships of fire management plans and resource management plans to suppression costs.

Governor Kempthorne of Idaho serves on the WFLC on behalf of WGA. WFLC asked WGA to chair the Panel upon its chartering, and Governors Kempthorne and Napolitano agreed. James Caswell, retired Forest Service and Director of the Idaho Governor's Office of Species Conservation, along with Kirk Rowdabaugh, State Forester for the State of Arizona, were asked by their respective Governors to serve as the co-chairmen of the Panel.

Fourteen individuals representing a wide variety of fire fighting interests, including the federal government, worked collaboratively over a four-month period and met multiple times face-to-face to construct the final Panel report. The Panel examined the last five years' reports related to suppression costs; interviewed a wide variety of people and groups, including researchers, special interests, fire managers, and other government officials; and analyzed more than 300 past recommendations to better understand the issues and to develop strategic actions that meet the intent of the Panel's charter. The Panel's report was first presented to the WFLC in July 2004.

While there have been many past reports on this topic that have led to efficiencies in managing the costs of large fires, those efforts have, at best, provided marginal cost reductions. The Panel's report, however, seeks to substantively address the underlying causes of large fire suppression costs. It is this important distinction that WGA believes makes the Panel's report with extremely valuable. As a result, the Governors have commended the report to the Secretaries of the Interior and Agriculture[8] and do so today to this Subcommittee and the Congress.

The strategic and interdependent recommendations set forth in the Panel's report are as follows:

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[4] See, *Journal of Forestry*, September 2004, vol. 102, no. 6, pp. 42-49.

[5] Large Fire Suppression Costs: Strategies for Cost Management, A Report to the Wildland Fire Leadership Council From the Strategic Issues Panel on Fire Suppression Costs at 2 (August 2004). *http://www.fireplan.gov/reports/2004/costmanagement.pdf.*

[6] Id. at 6.

[7] Id.

[8] Western Governors' Association letter of November 8, 2004 to Secretary of the Interior Gale Norton and Secretary of Agriculture Ann M. Veneman. *http://www.westgov.org/wga/initiatives/fire/cost-ltr11-8-04.pdf.*

A. Increase the level of accountability and interest for large fire costs and their impacts by allocating suppression funds on a regional or equivalent basis.

B. Set policy and direction on agency land/resource management planning to incorporate cost management on large wildfires.

C. Plan, budget, and manage resources effectively for large fire suppression, such that resources for effective initial response and extended attack are not compromised.

D. Ensure initial responses are always aggressive and driven by the principle of utilizing the closest appropriate resources, including those of local and tribal governments.

E. Incorporate fuels management and future fire management cost considerations when planning all resource management projects for public and private lands.

F. Commit to improving the fire cost data infrastructure as a prerequisite step toward improving accountability and strengthening fire management performance.

G. Develop and use a benefit cost measure as the core measure of suppression cost effectiveness.

The following are the recommendations as taken from the Panel's report including the necessary components of each recommendation as well as the goals each recommendation seeks to achieve.

A. Leadership, Commitment and Accountability

Increase the level of accountability and interest for large fire costs and their impacts by allocating suppression funds on a regional or equivalent basis. Create a dedicated group of agency administrators representing local and regional levels, and at least one member of the Panel, to develop operational rules and oversight procedures. Components of this recommendation include:

- Allocate suppression funds to regions or logical geographical divisions.
- Use predictive-based budgeting, as opposed to the current system of 10-year moving averages, as the basis for allocation. The 10-year average will not provide sufficient funds to implement this recommendation.
- Establish special relief provisions for "mega" or "extreme" large wildfires, i.e., establish reasoned estimates for reasonably anticipated levels of funding.
- Create and manage a national suppression reserve from allocated suppression funds. Eliminate "severity funding," as it is known today.
- Provide incentives for staying within allocated amounts by allowing up to 51% of "savings" to be used for other fire-related projects. Set provisions for the remaining 49% of savings to be returned to the national suppression reserve.
- Require each region or logical geographic division to contribute a co-payment to the wildland fire suppression expenditure before granting access to the national suppression reserve.
- Improve adjacent agency partnerships to co-manage the funds. Combine allocations where practical and feasible.
- Increase regional tracking and reporting of suppression expenditures. Establish a headquarters comptroller, who reports directly to the agency administrator (not the fire organization) explicitly for suppression cost allocations, monitoring, and suppression reserve management.

Generally, cost considerations take a back seat to firefighter and public safety and environmental concerns. While this hierarchy of concern is appropriate, cost considerations are never brought to the forefront. Costs and cost effectiveness have rarely been regarded as a priority for the federal wildland fire suppression organizations, and most agency administrators have operated under the current system of essentially having a blank check. The lack of accountability for costs allows for increasing costs of wildland fire suppression. The goal of this recommendation, therefore, is to create the accountability that is missing and the incentives for land managers to consider costs.

WGA believes that Recommendation A will provide the greatest amount of cost saving if fully implemented.

B. Resource/Land Management Planning (R/LMPs) and their Relationships to Fire Management Planning (FMPs)

Set policy and direction on agency land/resource management planning to incorporate cost management on large wildfires. Components of this recommendation include:

a. Display the anticipated wildland fire suppression costs in R/LMPs for each alternative proposed, including the no-action alternative.

b. Establish the expectations in R/LMPs and FMPs for costs of implementing the plans by recognizing the probability of large fire occurrence and specifying acceptable losses, given the land management direction established.
c. Where state, local, and tribal governments have established effective cost management guidance, consider it in the agency planning process.

Without the consideration of cost in the planning process, costs are simply a result of the incident and nothing else should be expected since nothing else was planned. The goal is the establishment of a "line of sight" from land management planning through Fire Management Plan preparation and on into the Wildland Fire Situation Analyses that incorporates cost management as a priority. Land management planning must recognize the wildland fire behavior conditions its decisions create.

C. Sustaining Initial and Extended Attack Capability

Plan, budget and manage resources effectively for large fire suppression such that resources for effective initial response and extended attack are not compromised. Components of this recommendation include:

a. Develop standard procedures to determine minimum resource levels that need to be maintained for effective initial and extended attack in each geographic area using predictive services capabilities based on Energy Release Component, or other applicable fire danger index.
b. For those resources not needed to meet the requirements noted above, develop and establish protocols for national control and positioning of those resources.

Creating a sustained program means emphasizing both a strong initial attack and extended attack capability. It must also provide for increasing state and local capability for efficient support of federal programs. This entails optimizing funds provided to field units by ensuring support costs are appropriate for services received. With maximum financial flexibility to pre-position resources, it is possible to increase initial attack success with the benefit of containing or possibly lowering costs.[9] It is also critical to sustain initial and extended attack resource capability at the local level by ensuring consistent budgeting for preparedness resources. This element would involve a cohesive, long-term budget strategy that includes preparedness, emergency suppression, fuels management, and state and local fire assistance in order to implement an effective, cost-efficient fire management program.

D. Initial Attack and Extended Attack Response

Ensure initial responses are always aggressive and driven by the principle of utilizing the closest appropriate resources, including those of local and tribal governments. Components of this recommendation include:

a. Use all available local resources in wildfire suppression strategy to create an integrated and coordinated response to wildland fire.
b. Form local Type 3 Incident Management Teams (IMTs) to manage initial and extended attack operations locally rather than rely on mobilization of Type 1 and Type 2 teams. Develop agreements with local, state and federal agencies that establish local Type 3 IMTs.
c. Focus meaningful federal and state agencies' financial support and provide appropriate technical assistance to strengthen local resources and assure their availability on a wildfire incident.

Enhanced firefighting preparedness and increased interagency coordination at the local level will improve the cost effectiveness of federal and local wildland firefighting efforts. An effective local department that is prepared to act immediately or in cooperation with other agencies to suppress wildfires can attack and contain wildfires on adjacent state and federal land, often before state and federal forces arrive. They can also provide much-needed assistance to large state and federal

[9] Title II of the National Drought Preparedness Act of 2005 (S.802) seeks to address an inherent flaw in wildfire suppression funding administered by the Federal Emergency Management Agency (FEMA) regarding pre-positioning. Currently, FEMA has authority to reimburse states for pre-positioning equipment to combat wildfires. This reimbursement is available only for a two-week period following a FEMA declaration. However, this current authority actually acts as a disincentive to states to provide pre-positioned resources. When states proactively and effectively extinguish a fire before it becomes an emergency, they do not qualify for reimbursement as FEMA has no need to make an emergency declaration because there is no emergency. Conversely, when state efforts fail at initial containment and a large fire ensues, they are reimbursed by FEMA. Title II of the National Drought Preparedness Act contains language that would ameliorate this disincentive by amending existing FEMA authority under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5131 et seq.).

wildfires, reducing national mobilization costs for federal agencies and lowering overall suppression expenditures.

Increasing the skills and availability of locally based Type 3 teams will lead to effective extended attack. When successful, the need for mobilization of higher cost Type 1 or 2 teams is negated. Additionally, the development of Type 3 teams that use local firefighters and support (regardless of agency) extensively will reduce costs in a variety of ways: the teams could take command, coordinate an effective extended attack, order necessary resources, and provide for safety through increased supervision, command and control. Most importantly, these teams will have knowledge of the local conditions and landscapes that will help them make good informed decisions. Within the first few hours of a fire-start, they can be very effective in controlling the fire quickly by establishing a competent management organization.[10]

E. Landscape Fuels Management for Public, Tribal and Private Lands

Incorporate fuels management and future fire management cost considerations when planning all resource management projects for public and private lands. Components of this recommendation include:

For Public and Tribal Lands

a. Develop interagency protocols that identify and report acres of hazardous fuels reduction from wildland fire.

b. Require analysis of burned-over areas and adopt active management strategies to ensure that excessive fuels do not accumulate again.

c. After large wildfires, re-evaluate the impacts and feasibility of adopting strategies that use the recently burned areas as boundaries for less costly wildland fire use. Incorporate the opportunity presented by the wildfire into the unit fuels strategy.

For Private Lands

a. Engage communities and property owners in creating defensible space around structures, and appropriate land use, zoning and construction methods/standards for structures situated in fire hazard areas.

b. Strive to make R/LMPs and FMPs into national, comprehensive interagency and intergovernmental wildland vegetation defensive management plans.

We want to put particular emphasis on the fact that the Panel also found that a paradigm shift in thinking about hazardous fuels reduction effectiveness is required and can be started by ceasing to use acres treated as a "results" measurement for program accomplishments.

Despite recent increases in funding and fuels treatments, it is apparent that current fuels reduction strategies are not able to address the full magnitude and scope of the fuels problem. Collectively, the integration of wildland fire risk mitigation measures into all resource management activities, a shift in suppression tactics and greater emphasis on post-fire fuel characteristics may reduce the overall costs of suppression, while ensuring the protection of high values-at-risk.

Solutions must address how to create a politically viable, collaborative effort to manage the landscape and mitigate fire risks within and around the wildland/urban interface.

F. Fire Cost Management Data Needs

Commit to improving the fire cost data infrastructure as a prerequisite step toward improving accountability and strengthening fire management performance. Necessary components of this recommendation include:

a. Wildland fire management agencies should begin the development of a more complete fire database and management information system.

b. Forest Service Research and Development, in partnership with the fire agencies, should be charged with developing and maintaining this database and with developing a regular series of peer-reviewed reports and analyses that track cost patterns and influences over time.

c. Establish an effective national fire-related information technology/information management framework under the guidance of the WFLC.

d. Develop an integrated database for all federal, state, and local agencies involved in the collection of wildland fire data that allows for sharing information across agencies and provides for a consolidation report on wildland fire response.

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[10] See, The Changing Role and Needs of Local, Rural, and Volunteer Fire Departments in the Wildland-Urban Interface: Recommended Actions for Implementing the 10-Year Comprehensive Strategy, An Assessment and Report to Congress (June 2003). *http://www.stateforesters.org/pubs/Final%20Rural%20Fire%20Report.pdf.*

The absence of information inhibits the ability to improve program management and to contain costs. Not knowing fully what wildfires cost—and why—retards credibility and accountability at all levels throughout the organization and with external stakeholders. Before cost management can become an integral part of the fire culture, similar to safety and stewardship, data and meaningful information on costs and cost management performance will have to be made readily available.

Data problems are not confined to suppression expenditures. Data on actual fuels treatment expenditures and treatment characteristics are also absent. Information maintained in the National Fire Plan Operations and Reporting System (NFPORS) contains planned—not actual—costs, and data are collected to report progress rather than evaluate and analyze actual results. Without better data on actual costs and their drivers, the agencies cannot assess their firefighting effectiveness or the efficiency with which they are managing costs.

G. Cost Management Metrics

Develop and use a benefit cost measure as the core measure of suppression cost effectiveness. Necessary components of this recommendation include:

a. Measure should be supported by a comprehensive analysis of wildland fire suppression expenditures and losses averted.

b. Analysis should be supported with a comprehensive knowledge base of fire management costs, suppression cost drivers, and values-at-risk.

c. Losses averted and suppression costs should be estimated and compared on every fire greater than 300 acres, using defensible methodology for estimation of values-at-risk and scientific fire behavior predictions for estimating the extent of fire involvement in the absence of control.

d. Benefit/cost ratios should be tracked over time and across regions and forests to assess trends.

Performance measures need to encourage managers to balance costs and protection objectives and to inform the public and government officials with a more complete picture for public debate. Without reliable and clear performance measures and cost information, land and fire managers may be compelled to select suppression alternatives to reduce potential negative impacts regardless of the cost.

Needed is a measure that helps evaluate the benefits and costs of suppression alternatives. Cost management involves not only minimizing the cost of suppression inputs and assuring their productive deployment, but also making sure that the total value of the cost and losses averted is in line with the direct and indirect costs of protecting those values. To bring the costs and benefits of an activity into an acceptable balance, managers of the activity can either increase the benefits or decrease the costs.

NEXT STEPS: IMPLEMENTATION OF THE RECOMMENDATIONS AND CONGRESSIONAL ACTIONS

The WFLC discussed implementation of the Panel's recommendations at their December 2004 meeting in Emmitsburg, Maryland. An overall review of the recommendations by WFLC staff concluded that most of the report would be feasible to implement, if agency leadership is committed to making implementation of the Panel's recommendations a priority for accomplishment. However, resources at the agencies are stretched thin. Staff noted that most of the people who should be assigned to an implementation are also involved in other high priority interagency assignments.

In Maryland, WFLC went forward, and with some caveats and amendments, adopted the bulk of the recommendations of the Panel, and we commend them for doing so.[11] However, on Recommendation A: "Leadership, Commitment and Accountability," where we believe there is the greatest opportunity for suppression cost savings, WFLC was not able to move forward in full. In part, WFLC had concern that certain components of the recommendations would require Congressional action to implement. It was noted that to create a national suppression reserve and thereby eliminate severity funds, Congressional approval might be required to allow reprogramming from suppression to preparedness and to create the national-level fund. To provide incentives to regional managers to stay within allocated suppression costs by allowing them to use part of any savings on other fire-related projects, Congressional approval was also noted as necessary, given the prohibition against moving appropriated funds from one budget line-item to another (e.g., from suppression to forest restoration) without prior approval. Finally, Congressional approval

[11] See Wildland Fire Leadership Council, Summary Decisions and Action Items, Emmitsburg, Maryland, December 2004 at *http://www.fireplan.gov/leadership/120704.html.*

was also noted as necessary to allow a co-payment from a federal land manager to the wildland fire suppression expenditure before granting access to the national suppression reserve. Appropriations law prohibits augmentation of one account with funds appropriated for a different purpose.

We urge appropriate Congressional leadership to sit down with the Administration and determine how the impediments to full implementation of Recommendation A may be overcome. If Congress and the Administration want to make a serious and concerted effort to contain large-fire costs, we urge you to strongly consider making the legal changes necessary for suppression cost savings to become a reality. Moreover, given the interrelated nature of all the recommendations, we urge the Congress to closely track and review progress made by the Administration in implementing each and all of the Panel's recommendations.

CONCLUSION

Real savings in the suppression budget will not happen overnight. Only with strong and sustained leadership from the Congress and the Secretaries of Agriculture and the Interior can significant reductions in the costs of suppression of large fires be achieved. The Panel believes those savings can be achieved if the recommendations they have put forward are fully implemented. As the Panel states, true suppression expenditure savings will only be achieved by focusing on strategic cost considerations as set forth in their recommendations, not on tactical cost considerations, such as the apportionment of suppression costs between all involved jurisdictions. The recommendations may require certain legal changes, and they most definitely require a change in the status quo of the agencies fire-fighting operations and mind set. The Panel and the WGA believe the time for these changes has come, and we hope the Congress and the Administration agree.

Senator CRAIG. Jim, Kirk, thank you both very much. It is tremendously helpful to get someone in your position and with the Governors of the Western States, who are really kind of in the core of that drought zone at the moment, looking at the realities of our forests and firefighting. We appreciate your thoughts at the moment, and we will take a very close look at the study in its completion.

Mark, let me start with you. It has been almost 2 years since the blue ribbon report on aviation safety was released and a year since the cancellation of 33 contracts for the heavy retardant multi-engine aircraft.

We have heard from people pushing everything from A-10 Warthogs to S-3 Vikings to Boeing 747s fitted with slip-in retardant tanks. We understand the process for certification of the B-200 amphibious aircraft, and the British Aerospace BA-146 is progressing.

What is the Department's long-term strategy for replacing these fire assets, and when will you be making your proposal on this and how much are the alternatives that you are considering likely to cost?

Mr. REY. First, I will submit for the record a summary of our progress in implementing the recommendations of the blue ribbon commission 2 years ago. Many of those recommendations which went beyond just the integrity of the airtanker fleet have been implemented.

I will also submit for the record an April 5 letter, this year, April 5, 2005, from Secretary Johanns and Secretary Norton, responding to the National Transportation Safety Board's recommendations.*

It is our judgment that we either have or are implementing all of the National Transportation Safety Board's recommendations. Both of those go to the integrity of the existing aviation assets and the existing airtanker fleet.

*The letter can be found in the appendix.

Now all of that having been given, we know that the existing fleet is not infinite, that there needs to be a going-forward strategy to bring online the next fleet, the next generation of tankers, and we are working on that, both between the Department of the Interior, the Department of Agriculture and the White House.

In broad terms, I think we can summarize what we are leaning toward is a fleet that is newer, but with fewer large fixed-wing airtankers, in favor of a larger number of more mobile assets, particularly helicopters, because our experience over the last couple of years has shown pretty good results with helicopters. There still is a need to maintain some number of large fixed-wing airtankers in the mix, because they are a particularly cost-effective asset.

Over the last year, as we have had the opportunity to look at the existing fleet, as well as look at the options for a future fleet, as well as talk to virtually everybody who has one of those planes you mentioned, I have met with all of them, and you have probably met with all of the ones who have operations in Idaho, and there are at least 14 of them that are out there with what they think is the next best thing. Unfortunately, none of those aircraft are ready to put online at the present time, and some of them probably never will be ready to put online. They are interesting experiments, but they probably will not get beyond that.

So as we looked at where to go, going forward, we were leaning—and may still yet lean—toward acquiring additional P-3s, because the military has a number of low-hour P-3s that can be retrofitted at a reasonable cost and used as the backbone of a large airtanker fleet in conjunction with all of the aviation assets. We would still maintain room if one or another of those 14 entrepreneurs is able to bring an alternative aircraft online at a comparable cost of operation to fly those as well.

Now in light of the crash this past week, we are going to have to take some time to evaluate why that occurred and what implications it has, if any, for where we were headed. So it is going to be a couple more, probably a couple more months, before we close on a going-forward strategy.

We are confident that our existing fleet, augmented by the assets that we can make available, either if the P-2Vs or the McDonnell Douglas products can come back online, or additional helicopters or helitankers or fixed-wing, single-engine tankers is going to be adequate to meet our needs for the foreseeable future. At the same time, we would like to get on with reconfiguring this fleet with more modern aircraft to take us not to next year or the year after, but to 10 years and 15 years down the road.

Senator CRAIG. Mark, thank you.

Senator Bingaman.

Senator BINGAMAN. Thank you very much, Mr. Chairman, for having the hearing.

Mr. Caswell, let me ask you about one of the conclusions that your report reached as I understand it. This is on the whole issue of predictive-based budgeting. We have had this discussion here in the committee before. I believe we had a discussion about it with Under Secretary Rey here last year.

You say in your report you use predictive-based budgeting as opposed to the current system of 10-year floating averages. This is for purposes of allocating suppression funds to different regions.

I essentially made that same suggestion, and the answer that I understood I got was that it was impossible to predict the relative severity of a fire season a year or more in advance when the agency budgets are being developed, so predictive-based budgeting was not possible, at least for those purposes when those budgets are put together.

I guess I would be interested in any response you have as to what you were intending to convey with this recommendation.

Mr. CASWELL. Mr. Chairman, Senator Bingaman, our view of this—this is one of the more critical recommendations in the seven—of the seven recommendations, and it is the one we felt really gives us the most opportunity to make a difference. And it was based on the notion that we need to have both incentives and disincentives, and we need to change behavior throughout the levels of the organization if we are going to turn the corner on how important it is to really seriously consider the costs in the future and to try to at least control those and not allow sort of just exponential growth to continue. So the idea here is really quite simple, and we think it is quite feasible to do this.

Now it is not without risks and there are complications. There are some legal complications and there is a bunch of stuff that would have to be worked through. However, having said that, it is quite simple. We know pretty much where, from history, these fires occur—the mega-fires is one of the ones I am talking about, this 2 percent—and in what areas.

So if we were to allocate our suppression funding, which in the 2006 budget I think right now stands at a recommendation level of about $700 million, to the areas of the country where we expect the most activity to occur, and then hold those, in the case of the Forest Service, regional foresters, and in the case of the Bureau of Land Management, State directors, responsible to manage their suppression budget. When they get to the point where it is exceeding the money they were allocated, they then have to dip into their regular resource funds—it is just like a deductible in insurance—until they have exceeded that level. We suggested 20 percent. Then they can come back to the national level to tap into the national level fund that is available.

There are a whole lot of things in terms of spreading risk, leadership, accountability, coordination, communications, decision-making, throughout the year about how I manage my region. And, yes, we may get it wrong some years in terms of our ability to predict, but built into that ought to be the ability to move some money around, too. We think this is a doable thing.

Senator BINGAMAN. Let me ask one other question here. Thank you very much for that answer. I am concerned about priority setting for fuels reduction treatments where the emphasis is on the number of acres treated. I hear complaints in my State that this, as a performance measure, is almost the exclusive driver behind the priority setting. The result is, instead of treating the highest priority areas, rangers are pushing to treat those acres that can be treated most cheaply and thereby get more acres treated. So the

cost containment report, as I read it, is very critical of using acres treated as a performance measure. Am I reading this right, and would someone like to comment on that?

Mr. ROWDABAUGH. Mr. Chairman, Senator Bingaman.

Senator BINGAMAN. Yes.

Mr. ROWDABAUGH. You got that exactly right. This report and the panel's recommendation is that we de-emphasize acres treated as the measure of program efficiency and emphasize resources protected: natural resources protected, human development, structures protected, lives protected.

The emphasis needs to change and to put our scarce resource dollars, our fuel-treatment dollars, on the ground in those areas where we can make the greatest difference to protecting our highest priorities.

Senator BINGAMAN. My time is up, Mr. Chairman. Thank you very much.

Senator CRAIG. Thank you very much, Senator. The last question I think was very probative and relevant to our current circumstance. It is a concern of mine also.

Let me turn to Senator Murkowski. Lisa.

Senator MURKOWSKI. Mr. Chairman, this is the third hearing I have attended where we have talked about the upcoming fire season, and with each hearing, we talk about those assets that are available to get out and combat these fires, and continuing problems with the retardant tanker fleet.

After our big fires last summer, the Fairbanks North Star Borough kind of did their own analysis of what went right, what went wrong. It was their own independent commission, looking at the Federal, State, local cooperation and some of the jurisdictional issues. One of the things that, of course, they pointed to, which is no surprise to anybody, is again we do not care whether it is Federal property or State property, but give us something that can assist us with the fires.

And, Mr. Rey, you mentioned the possibility of bringing more helicopters online as, again, an additional asset or an asset that can be more responsive than perhaps the retardant tankers. But it seems that there has been this issue of not having enough of the tankers. We had the concern last year with the ambiguity as it related to these three—the Canadian retardant tankers that we had contracted with—the State of Alaska had contracted with—and there was ambiguity as to whether or not these tankers could fight the fires in Federal protection areas.

And what we were faced with, as I mentioned in my opening statement, was not so much the threat of the fire to property and person, but what the smoke was doing to our urban centers, literally shutting down the interior to traffic, whether it be road or air traffic for tourism.

What can we expect this year in terms of what will be available to us? Will we have the ambiguity cleared up in terms of whether or not we can use these Canadian tankers? What will we have there?

And I notice on the map we are not in the above-normal potential range except down on the Kenai Peninsula in south central,

which is, of course, where our population center is. So I need to know that we will have the assets that are available.

I am also concerned about the possibility for getting additional helicopters as well as local fire trucks down in the Kenai Peninsula area, so if you can speak to that, please.

Mr. REY. I had this discussion with Senator Stevens at the Appropriations Committee, and so I went back and checked to make sure that what I told Senator Stevens was correct.

The allocation of resources in an incident is controlled by the incident commander. We do not tell him how many planes he needs. We do not tell him you need to hire this kind of equipment or that kind of equipment. That is what we train them for and what we rely on them for. None of the incident commanders in Alaska had unmet resource requests.

So whether people, looking from the outside in to the firefighting effort, thought it was adequate or not is another question. But in the judgment of the incident commanders who were fighting those fires, they asked for and got what they thought they needed, and we thereafter do a review to see if that was the right firefighting strategy.

There was some initial confusion, which was later remedied, about the use of non-federally certified tankers and the liability associated with that, having stood down the fleet of heavy tankers. That has been remedied and that will not be a problem this year, State of Alaska tankers.

Senator MURKOWSKI. You say it has been remedied and it will not be a problem. It is remedied in what way? Have we cleared up the jurisdictional issue or do we have more tankers?

Mr. REY. We have cleared up the safety issue. We are not concerned with the safety of the assets that are going to be used, either by the Federal Government or by the State.

Senator MURKOWSKI. So they will be available if needed.

Mr. REY. They were available if needed anyway under State control. The question is whether we wanted to put an asset, a plane that we could not verify could fly safely, into a federally-controlled firefighting effort. And that issue has now been remedied, because we believe the plane is safe to fly.

Senator MURKOWSKI. What about the Canadian tankers?

Mr. REY. Those are the ones we are referring to.

Senator MURKOWSKI. So if we need them, they will be available to us without any concern about either the safety component or the accessibility?

Mr. REY. That is correct. But to the point, last year we had extra tankers standing by at the time those incident commanders were fighting those fires. So if the incident commander had said I need a tanker here, the fact that——

Senator MURKOWSKI. Were not those tankers standing by down in California?

Mr. REY. Correct.

Senator MURKOWSKI. And the problem that we were facing was that the smoke was so thick we could not get anything into the air, whether it be a tanker or a helicopter or——

Mr. REY. That is a different problem.

Senator MURKOWSKI. Okay.

Mr. REY. There are times when aviation assets, even though they are available, are ineffective. We had that problem for a considerable period of time in Alaska last year. We had it for different reasons in California in 2003, where extreme winds made tanker, or any aviation flight, too hazardous and ineffective.

Senator MURKOWSKI. I have more questions, Mr. Chair, but I will wait until the next round.

Senator CRAIG. We will have another round.

Senator Cantwell.

Senator CANTWELL. Thank you, Mr. Chairman, for holding this hearing on wildfire preparedness and certainly to you and Senator Wyden for your continued focus on this issue. I think it is very important.

Obviously, the charts and the map here show almost all three of our States.

Senator CRAIG. Your State and Ron's State and my State are in the bull's-eye this year.

Senator CANTWELL. Yes. And I think it is not lost on our panel who are testifying today, the conditions of the Northwest with drought conditions. And I do not know yet that our Governor has declared an emergency related to drought, but may do so in the near future, which brings up one particular question that I have. Mr. Rey, I think you and I have talked about this before, which is the issue of preparedness and how we spend our money and particularly the training of firefighting individuals.

Now I notice that Mr. Caswell, representing the Western Governors' Association, actually included in his testimony a statement about, "Not knowing fully what wildfires cost—and why—retards credibility and accountability at all levels throughout the organization with the external stakeholders. And before cost management can come an integral of firefighting culture, similar to safety and stewardship . . . ." He goes on to say that we have to have that information.

So I guess, Mr. Rey, I am asking, when will this subcommittee get information on what costs are in the budget, specifically related to training of firefighter personnel and the safety in firefighter training budget, in particular, beyond just training? But what safety measures and what dollars are being spent on that? Now that is a request I have made previously, and I do not know if you have information you can provide us today about the actual costs associated with training and safety for preparedness as it relates to the workforce that is actually out there on the front line.

Mr. REY. One of the complications is that many of the training programs that we undertake are not specific to firefighters. We train other field personnel in some of the same techniques.

So what we are trying to do, in response to your request, is to break out those training expenses to just those that are associated with training firefighters as opposed to other field workers. We should be able to get that to you within the next couple of weeks.

Senator CANTWELL. So I will—because we made a request——

Mr. REY. I think you made it at the budget hearing, earlier this spring, if I recall.

Senator CANTWELL. And I just want to point out that in 2002, you also said that you would get us specific requests, which we did not see. So we are very anxious about this, and I will tell you why.

You know, obviously everybody remembers Storm King, the fire where many individuals lost their lives. And then in Washington State, we had the Thirtymile Fire. But what was surprising about the Thirtymile Fire, in the investigation that was done by the Occupational Safety and Health Administration, is that in this Thirtymile case, all 10 of the agencies' standing fire orders—I mean the provisions about what the workforce should be doing—and 18 watch-out situations, which are again the basic rules, were violated or disregarded.

Then along comes the Cramer Fire. Two more individuals lose their lives, and the Occupational Safety and Health Administration study found that there were, in the Cramer Fire, additional serious, willful and repeat violations.

So we are hearing the same information over and over again, and it seems to be related to a workforce that is out there in a very dangerous situation. Everybody knows that and understands that, but may not be fully trained, fully aware or getting the right level of training as it relates to the dangerous level of the situation. And the fact that we keep seeing the same issues from the Occupational Safety and Health Administration being brought up, the same rules—and I do not want to get into a situation where we are blaming the individuals who may not have gotten enough training. In the situation with our own State and what happened at Thirtymile, they were a very young group of people. I mean there were 18-year-olds out there being trained a short period of time.

So I want to get to the bottom of what we are spending and actually agree, Mr. Caswell, with you making that statement—in a much broader fashion— of the information. But to me, getting the culture corrected on following these rules is also about finding the money and how much we are spending on it and being detailed about it.

Mr. REY. We can get that to you. There is a common theme between all three of those fires, and that is that the catastrophe occurred when the fires were in transition. So it is not just a question of changing the agency's culture. It is not just a question of investing more in training. It is, in this case, a question of figuring out what happens at that moment when a fire transitions from a relatively benign incident to one that is one much more difficult. We need to identify that in order to train people to anticipate and avoid it.

So there are, in these particular instances, some things we are focused on in trying to focus on that specific circumstance, because that is where the casualties seem to be occurring more commonly than, for example, when crews are combating a fire that has already become a large incident fire. So there is some complexity there as well.

Senator CANTWELL. I know my time is up, Mr. Chairman, but I think that there is something beyond just that these were very tricky situations in the sense that in the Thirtymile Fire situation, there was a lot of testimony, a lot of dispute, about whether that

particular crew should have been at that particular point at that time.

Now you are talking about communication and command, and as I mentioned them, the watch-out—the 18 watch-out situation commands that are supposedly passed on to these individuals, but are they following?

And so we do end up getting people in very dangerous situations. But somehow these standing orders, and specifically the watch-out situations—hey, these are the things you should watch out for—are not being followed.

Mr. Chairman, I will submit more questions, but we certainly will be looking for this information.

Mr. REY. One of the things about Thirtymile that has changed since then is that one of the causal factors was fatigue on the part of the crew leader, so we have changed our rest-rotation requirements. It was not an issue of training so much as it was that they were on shift too long and good decision-making was not made as quickly as it should have in the face of a rapidly changing fire environment.

Senator CRAIG. Now let me turn to Senator Smith.

Senator SMITH. Thank you, Mr. Chairman.

Mark Rey and all of you, thank you for your testimony and your contribution to this hearing. Mark, last week Senator Craig and I sent a letter to the Forest Service chief requesting that the Service provide real-time estimates of smoke and gas emissions from this year's wildfires. Do you believe the Forest Service will be able to provide this information to the public this year?

Mr. REY. Probably not this year, likely next year. We have been working on and have invested a considerable amount of time on a model that will use fuel conditions and weather data to tell us what will happen when a particular area burns, where the smoke will go, and what it will contain. The model is called Blue Sky Rains.

What we will do this year is, as we get fires, locate monitors so that we are monitoring the smoke emissions and then compare what we get on a real-time basis to what the model has predicted in order to calibrate the model properly. If we are able to do that—and, frankly, there is part of me that hopes we will not be able to do that, because that means there will not be many fires. But I think probably we will get the fires. So if we are able to do that, then by next year, with the model properly calibrated, we should be able to tell you if this amount of southwestern Oregon burns, this is where the smoke will go and these will be what kinds of emissions you will get.

The model is hinged on particulate emissions, which we think are a pretty fair indicator for the greenhouse gases and the toxins that we know are also emitted in an uncontrolled wildfire situation.

Senator SMITH. You mentioned in your testimony the total acreage treated on Forest Service lands. There are concerns that the bulk of this acreage was accomplished through prescribed fire rather than mechanical treatment. Could you provide me and the subcommittee with a breakdown of burn versus mechanical acreage treated, and also how many acres where condition class was actually changed?

Mr. REY. We have that information in our data bases and we can spit it out for you.

One of the things that is important to remember is that, as we had a pretty benign fire season, a relatively benign fire season, in 2004, we had very large burn windows for prescribed fire, and that made the acres for prescribed burning able to be increased. And I do not begrudge our people the opportunity to do that, because it meant that fuels treatment work was getting done.

Again, there was a discussion earlier about acres treated not being the best performance measure, and we agree with that, and that is why we are developing more refined performance measures, but it is one that everybody can understand.

And last year was the first year, excluding Alaska, although I am reluctant to do that—but excluding Alaska, last year was the first year that we actually treated more acres than were burned in wildfires.

Senator SMITH. Mr. Chairman, I will submit some further questions and ask for written responses. They relate to the number of helicopter companies in Oregon that have expressed concerns over contract negotiations with the Forest Service for their facilities to be used in treating wildfires. Thank you.

Senator CRAIG. Senator, thank you, and thank you for attending.

Now let me turn to Senator Ron Wyden. Ron.

Senator WYDEN. Thank you, Mr. Chairman. I think my friend and colleague, Senator Smith, has been, as usual, diplomatic with respect to the frustrations at home about contracting, and I am not going to be——

Senator SMITH. I was going to have a follow-up question, but you proceed, because you will be less diplomatic.

Senator WYDEN. I am not going to be as diplomatic as my friend is, because I think there is tremendous frustration, Mr. Rey, on this point. And this goes to the question that we have been at summer after summer with respect to the readiness of aircraft, and these helicopters that Senator Smith and I are concerned about are more needed now than they were before.

And what we have to do is get clarified how these contracts are going to proceed. And as far as I can tell, there is a lot of confusion with respect to the two kinds of potential contracts out there for the aircraft that we need. There is one kind of contract called an exclusive contract where, in effect, I gather, the aircraft is just sitting there and is available. And then there is another aircraft contract called call-when-needed, and essentially these kinds of aircraft could be used for other sorts of matters. And what folks at home are concerned about—and I think this is really going to affect our readiness—is that the two kinds of contracts are sort of being used interchangeably by folks at home, so people cannot prepare and get a sense of what they are going to actually need out on the ground.

And in particular there was a meeting on March 7 of this year that was held at Forest Service Headquarters with Larry Brosnan, the Assistant Director of Fire and Aviation, to discuss the contracting malpractice. A lot of the folks that Senator Smith and I represent were there. And I think they went home vastly more confused than they were when they got there.

And what I would like to ask, Mr. Rey, is if you could get us a statement within the next 10 days that specifically clarifies how these contract practices will work, what kind of implementation is going to be needed. Because we need to provide our constituents with the basic contracting 101 information with respect to these types of contracts if we are going to have the kind of readiness that I know you want to see and I want to see. So can we get that worked out so that within the next 10 days you will get us a clear statement with respect to how this contracting authority is to proceed and what the folks in Oregon are supposed to do to get it implemented?

Mr. REY. That will be easy to do. This has been a matter of ongoing negotiation between the Forest Service and the vendors from among the helicopter companies, and it has been a very good and vibrant negotiation.

Now, last year at this time, when it was clear that we were going to depend on a larger amount of helicopters, some of the helicopter operators—certainly none of your constituents or Senator Craig's, but some of them from somewhere—thought they had us over the barrel, quite frankly, and the rates they quoted us were outrageous. We took a pretty firm line that we were not going to spend the taxpayers' money that way, and lo and behold, as it turned out, we were able to work something out with them.

So we have, you know, some pretty aggressive contract people. They view themselves as the guardian of the public trust and sometimes that results in unhappiness, sometimes it results in confusion. There are two different kinds of contracts, and we can clarify for you how we use each.

Senator WYDEN. Good. Well, that strikes me as fair and if I could say, Mr. Chairman, I would like to work with you on this, because I think we want a win/win. We want to make sure that the region has the aircraft that we need, and we want to make sure that the taxpayers' interests are protected.

What I am concerned about is we are on our way to a lose/lose. We are going to have confusion with respect to the aircraft and we are not going to protect the taxpayer concerns. And I am sure that people other than those in Idaho, Oregon and Washington would probably try to exploit that. But I am glad you want to work with us, and we will expect that within 10 days.

The other point that I wanted to ask about goes to something that I have been interested in over the years and ask more in terms of a long-term kind of discussion. My question is, is there any way to track the costs of a fire while it is actually ongoing? The reason that I ask about this is that obviously our folks are in harm's way and people who are out in the field cannot do that. But I wonder what the process is in terms of folks away from the fire trying to figure out how to best allocate the costs.

The reason I ask this is that there seems to still be wide variations in cost per acre of fires that even to an inexpert eye like my own look fairly similar. So how is that done? And, if so, are there any ways in which that might be improved? And I see one of your colleagues, Ms. Scarlett, nodding as well.

I know my time is up, Mr. Chairman, but if both Mr. Rey and Ms. Scarlett could respond to that, that would be great.

Mr. REY. We actually have the capability to track costs on a daily basis, on a real-time basis. Not the cost of the burn in resource values, but our costs of suppression. So we can provide that information for any incident in a fairly short time period.

There is a very wide variation of cost per acre, and you are right. Sometimes the reasons for that variation are obvious, given where and what kind of fire it is. Sometimes they are less obvious, and that is looking at the costs of large incidents. Fires that we do not extinguish on initial attack is where we know, as Mr. Caswell said, most of the savings can be achieved. So understanding those differences is a good part of our cost recovery effort.

Ms. SCARLETT. Senator, the only thing I would add to that is that it is precisely those variations that caused us to, in 2003, do five analyses of some large fires and take a very close look at them to see if we could better understand what was driving the differences in costs from one to the other.

In turn, that is also what led the Wildland Fire Leadership Council to convene the strategic issues panel that these two gentlemen co-chaired, again, to give us a better understanding. We think that that strategic issues panel has illuminated some issues and we are in the process of trying to implement some of those recommendations. It is not going to do away with the variation that is driven by terrain and other factors, but hopefully we can get more uniformly efficient by utilizing some of their recommendations.

Senator WYDEN. Can you provide Senator Craig and me that information? Because, on their face, these variations are simply too wide to gloss over, and the fires look relatively similar. The variations—the gap is very substantial, and I would like to have you supply us the information you gathered with respect to how you might go about addressing those differences.

Ms. SCARLETT. We would be happy to do that.

Mr. REY. One difference I would just point out at the outset is it depends on what the prevailing rate, if we use State or local help, is. It is more expensive to fight fires in southern California than it is eastern Oregon, if we are using State assets.

Senator WYDEN. I think that is a fair point. That is not the kind of concern I have. Obviously, there could be wage differentials and things that are apparent on the face. But what has been, I think, unusual to me, and certainly inexplicable on its face, is it looks like fairly similar kinds of fires in fairly similar parts of the rural West, and the variations are dramatic. So I would like that information then. I thank you for your thoughts on that.

Thank you, Mr. Chairman.

Senator CRAIG. Thank you, Ron.

Now let me turn to Senator Salazar, noting that on the Rocky Mountain front, from top to bottom, you are at 100 to 150 percent of normal moisture. So we would assume that both agencies would transfer a dominant amount of the resources that would otherwise play out in Colorado to the inland West this year. Other than that, let me recognize Senator Salazar.

Senator SALAZAR. Thank you very much, Chairman Craig. You know that in any part of the West, the arid West, there never is enough rainfall anyway. We are still in a drought situation in Colo-

rado, notwithstanding the statistics, but thank you for the moisture, whoever has been creating it. We are doing much better in Colorado than we had for a very long time and conditions have, in fact, improved.

Let me say to the chairman, Senator Craig, I really appreciate the fact that you have convened this hearing, because it is a very important subject for all of us across the West, certainly very important for us in Colorado. And I think when you have lived through the wildfires that we have seen across the West and you have seen, firsthand, the tragedies that sometimes occur because of wildfires, that this is exactly the kind of thing that we ought to be doing. So my commendation again to our chairman. I think I am doing that two or three times a day on different things these days, but he is doing a great job.

In Colorado, in 1994, we lost 14 men and women near Glenwood Springs in the Storm King Fire. Back, I think it was 2 years ago, I was involved in prosecuting the person who started the Hayman Fire, near the Denver area, where there were over 138,000 acres of forest lands that were burned there, as well as a lot of private property that was burned in that particular burn. And then in 2002, up near Estes Park, we also saw a slurry bomber go down with three crew members that were also killed. So we know from the great drought of the last several years in our State how important this issue is for all of us and the importance of addressing it in a preventive way.

My question to you, Mr. Rey and Ms. Scarlett, is relative to coordination with State and local governments. At the end of the day, you know, the national effort cannot do it alone, and there has to be a tremendous coordinated effort with State and local fire prevention and firefighting efforts. And I would like just an overview of how it is that the Department is coordinating with the State and local governments on this issue.

Ms. SCARLETT. I will tackle that first, if I might. There are a number of things that we have underway. Let me first thank you for the observation. We fully agree that it is critically important that we work better and better with the State and local entities.

The Department of the Interior, recognizing that, has actually incorporated into its preparedness plan this year special training for local firefighting folks, so that we can both enhance their ability to fight wildland fires alongside of us and have the same kind of training that our Federal people have. So that is a priority for us.

Second, we had reference to the interoperability issues and the technical issues. We have underway, working with State and local governments, efforts to have a common incident reporting system and then, secondly, working on better communications interoperability, which has been a very significant impediment identified by local governments in the past.

So both on the training front and on the interoperability front, we have efforts underway to make that a more seamless collaborative effort.

Senator SALAZAR. And are you comfortable then, Ms. Scarlett, with respect to that level of coordination that currently exists, as we look at the season ahead, that if I were to ask local governments how you are coordinating with them, that I would get back

the response that they would say the Feds are doing everything right in the way that we like to see it done?

Ms. SCARLETT. I would always like to say that improvement is a journey, not a destination. I am sure there are more things that we can still do better.

We have significantly enhanced training, and we did, for the first time 2 years ago, sign, with the International Association of Fire Chiefs, a memorandum of understanding. That was a first-time-ever agreement that we signed with them, again, with the idea of getting some common agreement on what kinds of training would be needed and to work with them. So I think if you were to ask them, what you would hear back is that progress has been made, but there certainly is more to do, and I would say especially on the technical interoperability side.

Senator SALAZAR. Is the technical interoperability effort, which is, I think, a necessity for us to be able to have the right kind of communication—are there technical challenges there with respect to the funding of equipment to achieve interoperability, or is it more a question of training?

Ms. SCARLETT. The issue is not so much a funding issue as it is a matter of local governments and Federal agencies using different communications equipment, in some instances, different kinds of telecommunications.

So we are working on a wildfire enterprise architecture. That is a fancy terminology meaning that we are trying to identify certain equipment standards and then try to achieve better alignment so that our communications technology can speak with their communications technology.

So it is not so much a funding issue as it is getting common standards and common understanding of how our systems can work together.

Senator SALAZAR. I know my time is up, but just a comment. I think that is a very important challenge for you to make sure that you prioritize, because I know from my experience in law enforcement, including the response that we had at the Columbine killings back on April 20, 1999 in Colorado, that the most significant problem we had in the response was that we could not have—the jurisdictions simply were not able to communicate with each other. And I am sure that was the challenge that we faced there. It is also a challenge that you face on the firefighting front. Thank you very much.

Senator CRAIG. Ken, thank you.

Mr. REY. If I could just add something for the record.

Senator CRAIG. Please.

Mr. REY. We do have agreements with all Western States and most Eastern States for integrated command systems and cooperative firefighting efforts. Within the last week, there has been an article from a fire in South Dakota, and one from California, where local firefighters are commenting on the increased level of cooperation between Federal, State and local firefighting organizations. So I will submit those for the record.*

Senator CRAIG. Thank you.

*The articles can be found in the appendix.

Ms. Nazzaro, let me ask you a question, if I might, in relation to reading through the Government Accountability Offices report 05-147 on wildland fire management. It is my sense that the Government Accountability Office believes the agencies need to tell Congress how much money it will take to implement a cohesive strategy. I also believe they need to tell us how long it will realistically take to implement that plan, given various funding levels. Did your staff find any information during its investigation to suggest what those costs might be—that would be one question—or how long it will take to truly reduce the condition of class 3 fire risk areas to a lower condition class level?

Ms. NAZZARO. Yes. And we agree with you. What we are advocating is that they develop a cohesive long-term strategy that would give you various options with the associated funding.

But in the short term, we identified two different studies. One was an interagency study that the agencies did, where they made an estimate that for fuel reduction, they would have to triple their budget to $1.4 billion. They came up with eight different options and associated costs and that was their estimate. That report was done in 2002 and has not been officially released or adopted. It is our understanding it is with the Office of Management and Budget for review. You may want to ask the agencies for any more current update on that.

The study said that basically they needed that increase for a period of a few years to start reducing the fuels through the fuel reduction program. Long term, they were estimating it would take, though, about 15 years to really see the risks reduced as far as fire management.

The second study that we came across was one done by the National Association of State Foresters. That was done in June 2002. Basically it was very similar. Their cost estimate was 2½ times the current budget or a little over $1 billion.

Senator CRAIG. Okay. Any response to Ms. Nazzaro's observation?

Mr. REY. Only to respond that those numbers are now fairly dated. Our budget this year was $867 million for this activity. So obviously we are substantially higher than we were when these numbers were developed.

Ms. SCARLETT. I would add that as we have done more and more of these fuel reduction projects, we are trying to move toward not simply counting acres, but looking at actual risks reduced. And our LANDFIRE program that I mentioned in my testimony, which is getting us vegetation information, is enabling us to better place our fuels reduction projects in a more strategic fashion. That obviously allows us, therefore, to have each dollar have a greater bang for the buck. So, again, I think that time and experience has perhaps transcended those numbers of several years ago.

Senator CRAIG. Thank you.

Jim, maybe you and Kirk, together, can respond to this. First of all, let me thank you for your continued public service and for lending your expertise and wisdom to the findings of the large fire cost containment report.

The first recommendations were to allocate suppression funding on a regional basis. You have talked about that some, to allow re-

gions to hold on to the savings to be used for other fire-related projects and to establish a special relief for a region for mega or extreme fires. Fascinating concept. You caught my attention with that one. How has it been received here in Washington by the planners at the Department of Agriculture and at the Department of the Interior?

Mr. CASWELL. Mr. Chairman, not with great glee, I have to say. I mean this is kind of a radical idea, and then there are a lot of complications.

I mean we recognize, the panel recognizes, this would take some pretty heavy lifting, and it would probably take some legislation. And we did not look into all of those issues and how that might work. That really was not our charge.

There have been some folks from both Ag and Interior who have, in fact, looked at this. They have thought through the complications, and we at Wildfire Leadership Council have adopted it with some caveats.

The Forest Service is—and we will hear about this next month, as I indicated, but the Forest Service is going to do a paper test to see this year, if this had been in place, with some assumptions included, what would have been the result. Maybe that will give us some insight into the pros and cons of moving forward.

Interior has been, at least at the agency level, more reluctant to take it on. They think that—I think they believe, quite frankly, they are already there in a lot of cases, particularly the Bureau of Land Management. Now that is my feeling about this in talking to some of the Bureau of Land Management people. I don't know if Kirk wants to add anything.

Mr. ROWDABAUGH. Certainly it was clear during the investigation of the panel that the field of incentives and disincentives for the line officers who make the cost decisions for any particular fire is certainly skewed right now for them to minimize the risks of them personally and to the local conditions on the ground at the expense of the overall suppression. For the line officer on the ground that makes the day-to-day decisions about how much money any particular fire is going to be allocated, there are no opportunity costs to that line officer.

It costs them nothing, personally, to expend these funds, and yet if they do not, they run great risks, personally, if they fail. And we had hoped through this recommendation to begin to change that dynamic so that the individual Federal line officer who makes these important decisions actually has a stake in the outcome.

Senator CRAIG. Well, thank you for thinking outside the box. It rarely happens in this community, and, Jim, you are to be a credit. You used to be one of us and now you are outside, thinking outside the box, and we greatly appreciate it.

I do not know that any of us have considered incentivizing firefighting costs or firefighting. Incentivizing in almost every other area has a result. Usually it tends to achieve what it is directed toward.

Mark and Lynn, have you given this any thought, and were you part of that not so well received group?

Mr. REY. No, I do not think so, but Jim correctly identified this as the showstopper among their recommendations.

One of the things Senator Bingaman mentioned is that he was dissatisfied that he had not heard more about the disposition of these recommendations. And what I want to do is to submit for the record a one-page summary of where they all stand, because I think, as Jim indicated, we are moving forward on many of them, and this is one that we do think prudence suggests that we ought to model retrospectively to see how it would have worked.

But consider the conversation you just had with Kirk, and reel back the conversation I had with Senator Cantwell and put the two together, because the concern over safety is one of the things that affects fire attack strategies.

Sure we could be more aggressive. We could put firefighters out on the line in more hazardous circumstances and cut costs dramatically if we succeed. But at the same time, if we lost a crew, I am quite certain the conversation we would have afterward would be much different.

So, yes, the system does not incentivize risk-taking, nor should it. And that is one of the places we are probably not going to see significant costs reduction progress being made.

But it is one of the cost drivers, because if we were willing to take a significant amount of risk, a substantial amount of risk, almost a fool-hardy risk, we probably had one chance in three of stopping the Hayman Fire at about 50 acres. But the other two chances in three would have probably meant losing two fire crews that we put in an untenable situation. But if we had succeeded, we would have been heroes. We would have saved tens of millions of dollars.

Senator CRAIG. Well, I can appreciate all of those concerns. If you had succeeded, no one would have been able to observe the savings made, because it would have been incalculable. Those are some of the realities of what we face. There is a reality, and the reality was discovered by the blue ribbon panel.

Firefighting costs go up at or near or slightly above the rate of the growth of government. If that level continues, and we look out there 10 or 12 years longer at these kinds of increased fire scenarios, I am not quite sure we can sustain that and do so in a realistic way.

I do not believe that action or aggressiveness necessarily jeopardizes individuals if the training is done effectively and appropriately in advance. And you just mentioned, as it related to the one fire, the situation of timing or someone too long on the line and, therefore, substantially fatigued. Those are not cost factors. Those are personnel factors that are realities that I think we all have to look at.

But, anyway, I appreciate the thought and/or all of the thoughts that have come forward. And if you would for us, track these recommendations and the results of them. I think that would be tremendously valuable.

I am going to have to run. I am going to turn the balance of the questioning over to Senator Murkowski. I would conclude, though, in an observation made by both the Senators from Oregon, that I understand all of these contractual problems that we are into. I would suggest that while we appreciate tough contract negotiators, my guess is that you probably ought to send a few of them to

charm school. They have done little more than infuriate some of the private contractors who feel that they are professionals and not somebody to be browbeaten by a tough negotiator. I think those are circumstances that we all have to deal with. And, of course, the reality is there are two Senators from Washington and I know there are two from Idaho who hear about it on a regular basis.

Mr. REY. It is the contractors that have come to talk to me as well. So we are working our way through that.

Senator CRAIG. I am sure they have.

Senator Murkowski.

Senator MURKOWSKI [presiding]. Thank you, Mr. Chairman. I do not intend to keep the panel much longer. I do want to thank you, ladies and gentlemen, for the information you have give us all today. It has been very interesting as we have gone through some of these.

I want to just go back to the question that we left, and I think we started going down one track and I got sidetracked with my initial point which was if the State of Alaska contracts with the Canadian tankers, do we have jurisdictional problems when we are fighting fires over Federal protection areas? It is at State and Federal and you are up in the air and whose land are we over? Has that ambiguity been cleared up?

Mr. REY. It has been, and I have a few more details that I did not have when we were trying to close on it the first time.

Last year the State contracted with some DC-4s that we were not satisfied could be flown safely and are still not satisfied could be flown safely. And when a State has assets that we do not believe are safe, if we are going to be responsive to the National Transportation Safety Board, the typical approach is fly them on State fires, fly them in any circumstance where they are not under our control, such that we accept liability for their operation.

This year, the Canadian tankers are tankers that meet the standards that the National Transportation Safety Board indicated we should have, so that issue will never emerge.

Senator MURKOWSKI. Okay. Good. And then very quickly, I alluded to the heightened fire threat on the Kenai Peninsula that you have outlined on the map there. As I understand, there is concern about what is available to fight any fires down in that region this summer, whether or not there would be availability of additional helicopters. I understand if they need additional fire trucks, we have to bring them up from outside from the lower 48.

My question is, what are we doing to prepare for this year's fire season down on the Kenai Peninsula, recognizing that this is the area where we have the greatest spruce bark beetle damage anywhere in the State? It is that tinder lying to be lit. So what are we doing in anticipation of the fire season down in that area?

Mr. REY. What I would like to do is get the pre-positioning assets identified so I can show you what we are going to put in the Kenai when we hit fire season there. That is a combination of both Forest Service and Fish and Wildlife Service, as well as Kenai Borough land. So whatever is there will probably be integrated assets from the three entities.

Senator MURKOWSKI. Ms. Scarlett.

Ms. SCARLETT. Senator, I would like to add another dimension that we have not discussed and it relates also to your questions about the smoke challenges last year.

The Alaska Wildland Fire Coordinating Group has actually been very actively reevaluating operations and procedures in light of some of the concerns that were raised last year, and held some 13 public sessions with the local communities to hear those concerns. As a consequence of that, we will be coming out with new guidance as it pertains to when we can go in with additional assets to mitigate smoke, for example, even if it was not in the original fire plan.

As part of that Wildland Fire Coordinating Group look, we are also reexamining asset deployment, and when the details are finalized for the pre-positioning, we will get back to you on that. But I wanted to mention——

Senator MURKOWSKI. When do you expect that guidance is going to be ready?

Ms. SCARLETT. It should be soon.

Senator MURKOWSKI. You mean before the fire season?

Ms. SCARLETT. Yes.

Mr. REY. It will.

Ms. SCARLETT. Yes.

Mr. REY. Yes, by necessity.

Ms. SCARLETT. Before the fire season.

Mr. REY. Before the fire season.

Senator MURKOWSKI. Thank you.

Ms. SCARLETT. And the new guidance, and the new guidance on smoke management also, should be available before the new fire season.

Senator MURKOWSKI. Good. That is of critical importance and being very keenly followed up north.

One last question then, and this relates to a prescribed burn that was set in the Glennallen area in mid-August. We had been dealing with all this smoke up north all summer long and then you wake up one morning in Anchorage, and you can't see across the street. We learned that a prescribed burn had been set. There is still some discussion about whether or not what we were experiencing in Anchorage was smoke from the Glennallen prescribed burn or whether it was smoke that had traveled down from the interior.

My question to you is what kind of communication goes out from your agencies to the local communities that might be in the path of any smoke that is coming their way so that folks know that this is going to happen, because it took the entire south central region by surprise?

Ms. SCARLETT. I am not familiar with the particular incidence of the prescribed burn that you mentioned. However, it is normal procedure when we are doing a prescribed burn that our agencies work very closely with the local communities and the local authorities to alert them both to the fact that a prescribed burn would be occurring.

Also, as Mark Rey mentioned earlier, typically before we do a prescribed burn, we would be looking at wind conditions and so forth. But I can look into the particular——

Senator MURKOWSKI. And as soon as we are smarter than the wind and Mother Nature, you let me know.

Ms. SCARLETT. But I will look into this particular instance and see whether proper communications did not occur.

Senator MURKOWSKI. I know that that was an issue that was presented to us, and as they were going through the after review of the fires, that was something that certainly my constituents had hoped would be contained as part of that review.

If you are going to do a prescribed burn while we have all of these wildfires going on, let people know, A, and B, make sure that if the winds do shift, which is what happened in this case, you do not get that cumulative effect to the communities that really is pretty devastating.

With that I thank all of the panelists for joining us this afternoon, and thank you for your good work. We are adjourned.

[Whereupon, at 4:15 p.m., the hearing was adjourned.]

APPENDIXES

APPENDIX I

Responses to Additional Questions

Responses to the following questions were not received at the time the hearing went to press.

COMMITTEE ON ENERGY AND NATURAL RESOURCES,
SUBCOMMITTEE ON PUBLIC LANDS AND FORESTS,
U.S. Senate, Washington, DC, April 29, 2005.

Hon. MIKE JOHANNS,
Secretary, Department of Agriculture.

DEAR MR. SECRETARY: I would like to take this opportunity to thank you for sending Mr. Mark Rey to appear before the Subcommittee on Public Lands & Forests of the Senate Committee on Energy and Natural Resources on April 26, 2005, to give testimony regarding the upcoming fire season.

Enclosed herewith please find a list of questions which have been submitted for the record. If possible, I would like to have your response to these questions by May 18, 2005.

Thank you in advance for your prompt consideration.

Sincerely,

LARRY E. CRAIG,
Subcommittee Chairman.

[Enclosure.]

QUESTIONS FROM SENATOR CRAIG

AIRCRAFT RELATED QUESTIONS

We spent an additional $60 million last year to settle the multi-engine heavy retardant aircraft contracts that were terminated by the government and to pay for the additional helicopters and SEATs aircraft needed to cover for the loss of those aircraft.

Question 1. Compared to 2003, how much additional funding is it likely to be needed this year to maintain the coverage that will be needed to make up for the loss of the 34 heavy bombers that agencies refused to contract with?

FIRE COSTS

According to the end of year statistics on acres burned and costs of the suppression efforts, most of the acres are burned on private land yet the Forest Service was responsible for 72% of the total cost of fire suppression.

2004 FIRE STATISTICS

Agency	Acres Burned	Percent	Suppression Costs	Percent
BIA	71,292	1%	$63,452,000	7%
BLM	1,305,707	16%	$147,165,000	17%
FWS	2,099,403	26%	$7,979,000	1%
NPS	42,352	1%	$34,052,000	4%
State/Other	4,026,811	49%		
FS	551,966	7%	$637,585,000	72%

Question 2. In terms of federal land fire fighters that are red-card certified, what percent come from each agency? Are 72% of the federal fire fighters Forest Service employees?

Question 3. Could you provide us with the following data: what percent of the total employees in each agency are red-card certified for this year?

Question 4. How does that compare with the state agencies that provide land management and fire fighting services?

Question 5. We are seeing changes in Forest Service contracting for aerial and ground equipment. At times it appears from afar that the contracting officers may be driving policy, rather than the policy makers driving policy.

I have been told that the national contract for fire engines has been eliminated and that regions are using either the national contract template or the Emergency Equipment Rental Agreement. What steps are being taken to ensure that contract engines are properly equipped, their crews are adequately trained, and the agency is getting the best value?

Question 6. Can you assure us that from region to region we will get a uniform application of the contracts?

Question 7. Does the agency plan on ordering called-when-needed aircraft through exclusive-use contracts? I see a statement in your Fire and Aviation Management Bridge Plan talking points (dated April 7 2003) that said: "Six Type I helicopters have been contracted. Converting to Call When Needed (CWN) contracts to exclusive use is an option and will result in significant cost savings if these ships are needed. "(emphasis added). What is agency policy regarding call-when-needed aircraft?

Question 8. It is becoming more common to see private fire suppression crews on federal land fires.

How do you see contract fire suppression forces fitting into overall agency fire preparedness? What are your plans for utilization of contract crews and engines?

Question 9. There has been considerable speculation about the availability of qualified incident commanders following investigations of the Cramer and Thirtymile fires and the passage of Public Law 107-203, requiring Agriculture Inspector General's investigations of Forest Service firefighter fatalities. In your opinion, have these events had any impact on the willingness of firefighters to achieve and maintain their Type III Incident Commander qualifications?

Question 10. Can you have your staffs provide our Committee with a year to year analysis from 1990 until 2004 of the number of people from the federal agencies and state agencies that were red card qualified as Type I, Type II or Type III incident commanders?

Please help us understand how many people on average retire or drop their red card in each year. Has the rate of attrition increased since 2000?

Question 11. I need you to help us better understand where we are on aerial assets and contracts of both helicopters and fixed-winged aircraft.

Last year in response to the decision to cancel the fixed-winged heavy retardant contracts you asked a number of companies to add helicopters to their exclusive use contracts. In the past these extra helicopters would have been obtained through called-as-needed contracts.

How many and what types of heavy retardant aircraft do you have under contract for this season?

Question 12. Do you have all the available and certified heavy aircraft under contract?

Question 13. The rumor is that the folks that are doing the service life analysis on the P-2V Neptunes need 700 more hours of flight data from the two P-2V's, that flew last year and are under restricted contracts this year, before they can complete their work. Is there any truth to that rumor? When will the service life analysis on the P-2V aircraft be completed?

Question 13a. How about the Douglas DC-6 and 7 aircraft, when will that service life contract be completed?

Question 14. How many and what types of helicopters do you have under contract? How many are under exclusive use contracts and how many are under called-as-needed contracts?

Question 15. How many Single Engine SEATs aircraft do you have under contract? What percent are under exclusive use contracts and how many are under called-as-needed contracts?

Question 16. How do the numbers of called-as-needed contracts this year compare to the numbers you had for the Heavy Retardant multi-engine planes, helicopters (heavy-lift, medium and light), and single-engine SEATs aircraft contracted in 2000?

Question 17. What is the annual cost of staffing and maintaining USFS Air Tanker Bases?

Question 18. What is the annual cost of staffing and operating heliports and spotters for Helicopter bucket drops on the federal land fires?

Question 19. What is the cost of training, maintaining, and operating the Lead Plane program for large Air Tankers?

Question 20. If lead planes are required for fixed wing retardant aircraft, are they also required for Type I helicopters that are dropping retardant, if not why not?

Question 21. When combined (operational cost of USFS Air Tanker Bases and the Lead Plane program) what is the cost of the Air Tanker program per Gallon of product delivered?

Question 22. When combined (operational cost of heliports and spotters and lead planes if used with helicopters) what is the cost of the helicopter program per gallon of product delivered?

Question 23. Where are the hidden cost of the Air Tanker program, Air Tanker Base maintenance, Lead Plane program cost, Retardant Cost, and aircraft flight time, accounted for and reported?

Question 24. Where are the hidden cost of the helicopter program, heliports, helicopter inspection, contract costs, administration of contract costs, heliport construction and operation, spotters or other federal employees needed to ensure the safe operation of helicopters on federal fires, accounted for and reported?

Please provide these costs and answers to these questions for Type I, Type II and Type III helicopters and the SEATs and heavy retardant aircraft.

QUESTION FROM SENATOR MURKOWSKI

Question 1. Following the 2004 season, Mayor Jim Whittaker and the Fairbanks North Star Borough Assembly appointed a commission of three outstanding citizens to conduct their own independent review of the wildfire response. Many of the recommendations contained in the report are directed to the federal government as well as the State. There are 22 recommendations in the report of the Fairbanks North Star Borough Wildfire Commission. I would ask the Department of the Interior and the Forest Service to respond to each of the recommendations for the record.

QUESTIONS FROM SENATOR BURNS

Question 1. How far along is the Department of Agriculture in implementing the cost management reports, especially those related to local and tribal governments for initial attack closest forces?

Question 2. National Fire Plan Funding. What is the expected Maximum Efficient Level (MEL) funding we can expect for the 2005 fire season?

Question 3. I realize prescribed fire may be cheaper to do and you can treat more acres. I believe we still need to treat some acres mechanically due to the fuel location in the wildland-urban interface and to provide some wood to our small mill operators. What efforts are being made to balance prescribed burning and mechanical treatment of hazardous fuels?

Question 4. What are the alternatives to meeting our federal partner commitments to Tribal, state, and local agencies for fire suppression assistance with the proposed funding reductions?

Question 5. Not only are you reducing funding for noxious weeds in the restoration funding, but also in your resource budgets? How do you expect to maintain the gains we've made in noxious weed control if we stop funding it?

Question 6. Are we still on track for a June completion date for the P-2V aircraft?

QUESTIONS FROM SENATOR SMITH

Question 1. I understand that the USFS has indicated its desire to test the 747 Supertanker. I also understand that the agency has been presented with a proposal requesting their contracting department to commence discussions with the contractor so the testing process can move forward as soon as possible. Please comment on the current state of testing for the 747 Supertanker.

Question 2. Given that the USFS has formulated both an Exclusive Use contract and a Call-When-Needed contract, what, precisely, is the USFS position regarding the appropriate use of each type of contract?

What does the USFS consider "sufficient notice" to industry of Exclusive Use contracts for Type 1 helicopters for the coming fire season?

Question 3. In 2003 and 2004, how many acres in Region 6 were mechanically treated for hazardous fuels, versus through controlled burn. On how many acres was the Condition Class of the stand actually changed?

Question 4. Will Type I helicopters again be contracted by "Emergency Authority" and not by standard federal acquisition procurement processes?

Question 5. The USFS currently has six Type I helicopters on Exclusive Use Contract. Are these aircraft enough to support the agency's needs without relying on "Call When Needed" aircraft?

Question 6. Why does the USFS not contract and manage Type I helicopters in the same manner as large airtankers?

Question 7. Taxpayer funds are being used to install Traffic Collision Avoidance Systems on exclusive use airtankers. Why are Type I helicopters being required to install Automated Flight Following equipment, with no financial assistance and with no guarantee that the aircraft will actually be used?

QUESTIONS FROM SENATOR BINGAMAN

Question 1. For each unit of the National Forest System and each Department of the Interior management unit where fire is a major component of the natural forested ecosystem, please provide the number of burnable acres within the unit, whether Wildland Fire Use currently is permitted on that unit, and the maximum number of acres for which Wildland Fire Use currently is permitted.

Question 2. Please provide the committee with a detailed status report on and plan for the implementation of each of the seven key recommendations made in the *Large Fire Suppression Cost* Report.

Question 3. In which months will the agencies provide to Congress (1) a joint tactical plan and (2) a cohesive strategy that identifies long-term options and needed funding for reducing and maintaining fuels, as described in the GAO's recent *Wildland Fire Management* report?

Question 4. Please provide a description of the agencies' long-term strategy for the aerial fire suppression fleet.

Question 5. What was the average cost per acre of mechanical fuel treatments, prescribed burns, emergency wildfire suppression, and Wildland Fire Use on National Forests in FY 2004.

Question 6. The *Large Fire Suppression Cost* report refers to the important role of sample ordinances and examples of wildland fire policies and planning documents in minimum levels of WUI protection (see p. 28). Is there a clearinghouse that provides local governments, homeowner associations and the like with examples of or models for guidance or requirements for protecting structures from wildfire?

QUESTIONS FROM SENATOR FEINSTEIN

According to Mr. Caswell, the Strategic Panel on Fire Suppression Costs found that, and I quote, "a paradigm shift in thinking about hazardous fuel reduction effectiveness is required and can be started by ceasing to use acres treated as a 'results' measurement for program accomplishments."

I share his concern that fixating on "acres treated" can lead the agencies to focus simply on the cheapest acres, regardless of how effective the treatments are.

Question 1. Can you respond to and address these concerns?

I would like to emphasize the importance to California of the absolute need to have a large and diverse fleet of firefighting aircraft. We know we're going to have a bad fire year sooner or later, and we need a fleet that can respond quickly on the initial attack when that year comes.

Question 2. You say in your testimony that the Forest Service and Interior, and I quote, "have initiated a long-term plan for aviation resources." What steps have you taken? When will the plan be submitted for Congressional review? Does Congress need to start budgeting additional money for this need now?

You relied extensively on helitankers and other helicopters for fighting fires last year.

Question 3. Do you agree with me that it would be better to have a more diverse fleet of aircraft? In particular, aren't the large airtankers better at responding to numerous and distant fires on the initial attack?

It's now been one and a half years since the disastrous Southern California fires of October 2003. The Forest Service has made a lot of progress, but I understand that we still have work to do to remove hazardous fuels and protect communities, particularly in the bark-beetle killed areas.

Question 4. Can you give me a status report, and tell me where we need more funding to get needed work done?

I understand that the Western Governors' strategic panel recommended that the federal agencies, and I quote, "Engage communities and property owners in creating defensible space around structures."

Question 5. Do you believe that California's Fire Safe program is an effective way to engage communities in hazardous fuels reduction? Is this a cost-effective strategy for the federal government, given the significant local matching grants?

QUESTIONS FROM SENATOR CANTWELL

Question 1. Mr. Rey, the Northwest Forest Pass, created under the Fee Demo program, currently brings in more than one million dollars each year to trails in Washington state. Local forests, which have seen their recreation budgets decline dramatically over the past decade, have come to depend upon these funds to take care of basic maintenance and operations needs.

How will the new fee regime, created under the Federal Lands Recreation Enhancement Act, ensure that this important source of trail funding is preserved?

Or, if the Northwest Forest Plan does not continue in its current form, how will the agency cover the cost of maintaining its trail system?

Question 2. Mr. Rey, as you know, funds shifted within the Forest Service at the national level magnify exponentially as they filter down through the regions to local forests, especially as the agency covers its various overhead and management expenses.

Given the President's proposed flat budget for Forest Service recreation funding, what do you anticipate to be the actual impact to recreation budgets at the forest level?

Likewise, the President has proposed a 16 percent cut to the agency's Capital Improvement and Maintenance/Trails (CIMT) account. After adjusting for agency and overhead costs, for every dollar delivered to a Washington forest in 2005, how many cents will they see in 2006?

Question 3. Mr. Rey, I understand that the individual regional Forest Service requests for LWCF funding to acquire in-fill parcels for the Pacific Crest National Scenic Trail total $5 million. All of these acquisitions are from willing sellers and will allow trail relocation off the roadway for safety reasons and to protect the trail from intense development pressures.

Please explain why the President's budget request does not follow the recommendations of the regional Forest Service offices.

Question 4. Mr. Rey, as you know the Forest Service is currently considering comments to its proposed changes to the landmark 2001 Roadless Area Conservation Rule.

Please provide me with an update on this process and when you think it will be completed.

What is the total number of comments received on this draft rulemaking? How many of those comments were from Washington state? Can you provide a preliminary analysis of those comments?

Question 5. Mr. Rey, the proposed changes to the Roadless Rule would provide governors with an unprecedented roll in determining the use of federally owned lands.

Is there any historic or regulatory precedence for state officials deciding how federal lands should be managed?

Is the Department of Interior concerned about how this dynamic could alter the use of other federally owned public lands?

Do you envision providing state agencies with federal resources to take on these tasks?

Mr. Rey, I understand that under the draft rule the Forest Service still retains all the final decision-making authority. Is it true that the Forest Service can still turn down any or all Governors' requests for roadless area protections?

Question 6. Mr. Rey, I am concerned about the fiscal implications of the proposed changes to the Roadless Rule.

What does the Forest Service estimate it will cost to begin a new state-by-state rulemaking process?

How will the proposed rule change affect the existing multi-billion-dollar road maintenance backlog?

Please update me on the state of the road maintenance backlog, including an estimation of its overall cost and an explanation of how these figures were derived.

How does the President's FY 2006 budget request propose to deal with this vital issue?

Question 7. Mr. Rey, as you know, the issue of USFS firefighter safety has been an issue that I have paid very close attention because of a horrible tragedy. On July 10, 2001, near Winthrop in Okanogan County, in the midst of the second worst drought in the history of our state, the Thirtymile fire burned out of control.

Four courageous young firefighters were killed. Their names:

1. Tom Craven, 30 years old;
2. Karen FitzPatrick, 18;
3. Jessica Johnson, 19;
4. and Devin Weaver, 21.

Sadly, as subsequent investigations revealed, these young men and women did not have to die. In the words of the Forest Service's own report on the Thirtymile fire, the tragedy "could have been prevented." At that time, I said that I believe we in Congress and management within the firefighting agencies have a responsibility to ensure that no preventable tragedy like Thirtymile fire ever happened again.

Yet, I'm deeply saddened by the fact that it's clear we haven't done enough.

In July 2003—two years after Thirtymile—two more firefighters perished, this time at the Cramer Fire within Idaho's Salmon-Challis National Forest. Jeff Allen and Shane Heath were killed when the fire burned over an area where they were attempting to construct a landing spot for firefighting helicopters.

After the Thirtymile Fire, the Occupational Safety and Health Administration (OSHA) conducted an investigation and levied against the Forest Service five citations for Serious and Willful violations of safety rules. It was eerie, when OSHA concluded its investigation of Cramer. The result: another five OSHA citations, for Serious, Willful and Repeat violations. Reading through the list of causal and contributing factors for Cramer and putting them next to those associated with the Thirtymile fire, I was struck by the many disturbing similarities. Even more haunting are the parallels between these lists and the factors cited in the investigation of 1994's South Canyon Fire on Storm King Mountain in Colorado. It's been ten years since those 14 firefighters lost their lives on Storm King Mountain—and yet, the same mistakes are being made over and over again.

These facts have also been documented by an audit and memorandum issued by the Department of Agriculture's Inspector General. The IG found that "while there were many factors common to all three fires, the most important was a failure by [Forest Service] fire suppression personnel to establish fire safety rules and guidelines and to exercise acceptable supervision and judgment." The audit also stated "accidents on the South Canyon, Thirtymile, and Cramer Fires, all of which involved fatalities, could have been avoided if certain individuals had followed standard safety practices and procedures in place at the time." Lastly, the IG noted that the Forest Service "has not timely implemented actions to improve its safety programs."

Despite these critical issues, how do you explain reductions in the USFS-preparedness budget?

What specific steps are you taking to ensure that our wildland firefighters and those that manage them during firefighting, are getting the training and equipment they need as we head to another challenging fire season in my state and throughout the West?

Can you clearly identify how much many will be spent on preparedness within each region of the Forest Service—including within my State of Washington?

Question 8. Mr. Rey, the USFS conducted an internal investigation following the Thirtymile fire. Unfortunately, much of that information was redacted when the report was released in May 2002. I believed then, and continue to believe, that the Forest Service over-reached—claiming "deliberative process privilege" as the reason it won't release any more. Deliberative process privilege is what agencies claim when they want to reject FOIA requests. It is clear that it is within the agency's discretion to release a less redacted version of the report itself.

Can you please explain your reasoning that this material, so important to the families of the four victims, has been redacted and is considered "deliberative process privilege"?

Question 9. In the context of homeland security, communications interoperability is defined as the ability of public safety agencies to talk across disciplines and jurisdictions via radio communications systems, exchanging voice and/or data with one another on demand, in real time, when needed and as authorized. Local, state, and federal employees as well as contractors fighting forest fires face many of the same communications challenges confronting first responders. Additionally, many forest fires occur in remote locations where there is limited or no communications infrastructure in place to connect to.

How does the Forest Service and the Department of the Interior ensure that those fighting forest fires can communicate with each other in all locales and under all conditions?

Is lack of interoperability between government owned and contractor owned communications equipment a concern? If so, how is this being addressed?

A percentage of contractors fighting any given fire may not be native English speakers and have an extremely limited understanding of English. How does the

Forest Service and the Department of the Interior ensure that these individuals can receive vital communications?

Question 10. A number of my constituents have voiced a concern about the lack of fairness in the spending of funds authorized by the Healthy Forests Restoration Act in the State of Washington.

Please provide me with a detailed list of projects that have started in my State since the passage of the Healthy Forests Restoration Act. Within that inventory, please note which projects are taking place within the Wildland Urban Interface and what communities are being protected.

Has your Forest Service recreation site maintenance back log grown over new funding needs mandated by the Healthy Forests Restoration Act?

COMMITTEE ON ENERGY AND NATURAL RESOURCES,
SUBCOMMITTEE ON PUBLIC LANDS AND FORESTS,
U.S. Senate, Washington, DC, April 29, 2005.

Hon. GALE NORTON,
Secretary, Department of the Interior.

DEAR MADAM SECRETARY: I would like to take this opportunity to thank you for sending Ms. Lynn Scarlett to appear before the Subcommittee on Public Lands & Forests of the Senate Committee on Energy and Natural Resources on April 26, 2005, to give testimony regarding the upcoming fire season.

Enclosed herewith please find a list of questions which have been submitted for the record. If possible, I would like to have your response to these questions by May 18, 2005.

Thank you in advance for your prompt consideration.

Sincerely,

LARRY E. CRAIG,
Subcommittee Chairman.

[Enclosure.]

QUESTIONS FROM SENATOR CRAIG

It is becoming increasingly clear that the fires that we are experiencing are getting more costly; and fire preparedness, suppression, and emergency rehabilitation is going to consume more and more of the land management agencies' budgets. I believe we will be impacting all land management agencies' ability to carry out the other land management they are tasked with.

We hear from some states that half of their employees are called away on federal fires each summer, while they perceive that only 15 to 20% of the federal land management agencies' employees are participating in fire fighting. Further, they believe that the federal land fire fighters do not spend as much time on state and private land fires as their employees spend on federal fires. I have a couple of questions.

Question 1. Looking at last year's data it looks to me like the Department of the Interior spent about $70 per acre on fires on lands they are expected to manage, while the Forest Service expended about $1,155 per acre. Can you help me understand what your agencies are doing differently from the Forest Service?

Question 2. If we are asking the states to send as many people as they do to federal land fires, and spend as much time as they do, what kind of assistance should the federal land management agencies provide the states to ensure the state agencies do not fall behind on their normal work?

Question 3. I want you to understand how important the state timber sale programs have become in states like Oregon, Washington, Idaho and Montana. They have taken up the slack for the complete breakdown of the federal timber sale programs. Do you think it is fair for the federal government to walk away from its timber sale program and demand the states to send more people, to spend more time on federal fires, at the expense of other important programs on those state lands?

Question 4. What are you going to do to ensure a larger percent of federal land management agencies' employees help fight these fires?

Question 5. Over time you are going to be asking the contractors to improve the technology in their aircraft. Better seatbelts, digital radios, and instrumentation to measure stress and metal fatigue have all come up in the recent past. Can you assure us that the people in fire and aviation will be developing the policy, not your contracting officers?

Question 6. Also I am concerned that the agencies have paid for some upgrade for the fixed winged aircraft, but not always for the helicopter companies. Can you help us understand how those decisions are made?

AIRCRAFT RELATED QUESTIONS

We spent an additional $60 million last year to settle the multi-engine heavy retardant aircraft contracts that were terminated by the government and to pay for the additional helicopters and SEATs aircraft needed to cover for the loss of those aircraft.

Question 7. Compared to 2003, how much additional funding is it likely to be needed this year to maintain the coverage that will be needed to make up for the loss of the 34 heavy bombers that agencies refused to contract with?

FIRE COSTS

According to the end of year statistics on acres burned and costs of the suppression efforts, most of the acres are burned on private land yet the Forest Service was responsible for 72% of the total cost of fire suppression.

2004 FIRE STATISTICS

Agency	Acres Burned	Percent	Suppression Costs	Percent
BIA	71,292	1%	$63,452,000	7%
BLM	1,305,707	16%	$147,165,000	17%
FWS	2,099,403	26%	$7,979,000	1%
NPS	42,352	1%	$34,052,000	4%
State/Other	4,026,811	49%		
FS	551,966	7%	$637,585,000	72%

Question 8. In terms of federal land fire fighters that are red-card certified, what percent come from each agency? Are 72% of the federal fire fighters Forest Service employees?

Question 9. Could you provide us with the following data: what percent of the total employees in each agency are red-card certified for this year?

Question 10. How does that compare with the state agencies that provide land management and fire fighting services?

QUESTION FROM SENATOR MURKOWSKI

Question 1. Following the 2004 season, Mayor Jim Whittaker and the Fairbanks North Star Borough Assembly appointed a commission of three outstanding citizens to conduct their own independent review of the wildfire response. Many of the recommendations contained in the report are directed to the federal government as well as the State. There are 22 recommendations in the report of the Fairbanks North Star Borough Wildfire Commission. I would ask the Department of the Interior and the Forest Service to respond to each of the recommendations for the record.

QUESTIONS FROM SENATOR BURNS

Question 1. How far along is the Department of the Interior in implementing the cost management reports, especially those related to local and tribal governments for initial attack closest forces?

Question 2. National Fire Plan Funding. What is the expected Maximum Efficient Level (MEL) funding we can expect for the 2005 fire season?

Question 3. I realize prescribed fire may be cheaper to do and you can treat more acres. I believe we still need to treat some acres mechanically due to the fuel location in the wildland-urban interface and to provide some wood to our small mill operators. What efforts are being made to balance prescribed burning and mechanical treatment of hazardous fuels?

Question 4. What are the alternatives to meeting our federal partner commitments to Tribal, state, and local agencies for fire suppression assistance with the proposed funding reductions?

Question 5. Not only are you reducing funding for noxious weeds in the restoration funding, but also in your resource budgets? How do you expect to maintain the gains we've made in noxious weed control if we stop funding it?

Question 6. Are we still on track for a June completion date for the P-2V aircraft?

QUESTIONS FROM SENATOR BINGAMAN

Question 1. For each unit of the National Forest System and each Department of the Interior management unit where fire is a major component of the natural for-

ested ecosystem, please provide the number of burnable acres within the unit, whether Wildland Fire Use currently is permitted on that unit, and the maximum number of acres for which Wildland Fire Use currently is permitted.

Question 2. Please provide the committee with a detailed status report on and plan for the implementation of each of the seven key recommendations made in the *Large Fire Suppression Cost* Report.

Question 3. In which months will the agencies provide to Congress (1) a joint tactical plan and (2) a cohesive strategy that identifies long-term options and needed funding for reducing and maintaining fuels, as described in the GAO's recent *Wildland Fire Management* report?

Question 4. Please provide a description of the agencies' long-term strategy for the aerial fire suppression fleet.

Question 5. The *Large Fire Suppression Cost* report refers to the important role of sample ordinances and examples of wildland fire policies and planning documents in minimum levels of WIJI protection (see p. 28). Is there a clearinghouse that provides local governments, homeowner associations and the like with examples of or models for guidance or requirements for protecting structures from wildfire?

QUESTION FROM SENATOR FEINSTEIN

Question 1. Both Mr. Caswell's Strategic Costs Panel and the GAO have emphasized we need better focus on treating the most cost-effective acres. The GAO and the federal agencies also seem to agree that completing the LANDFIRE mapping system is an excellent way to guide our fuel reduction efforts.

I understand from your testimony that LANDFIRE is scheduled for implementation in the West by 2006. Can you assure me that the West will be fully mapped by the end of next year?

COMMITTEE ON ENERGY AND NATURAL RESOURCES,
SUBCOMMITTEE ON PUBLIC LANDS AND FORESTS,
U.S. Senate, Washington, DC, April 29, 2005.

Mr. JIM CASWELL,
Office of Species Conservation, Boise, ID.

DEAR MR. CASWELL: I would like to take this opportunity to thank you for appearing before the Subcommittee on Public Lands & Forests of the Senate Committee on Energy and Natural Resources on April 26, 2005, to give testimony regarding the findings of the Blue Ribbon Committee on Fire Cost Management.

Enclosed herewith please find a list of questions which have been submitted for the record. If possible, I would like to have your response to these questions by May 18, 2005.

Thank you in advance for your prompt consideration.

Sincerely,

LARRY E. CRAIG,
Subcommittee Chairman.

[Enclosure.]

QUESTIONS FROM SENATOR FEINSTEIN

Mr. Caswell, in your testimony you say that your Strategic Panel on Fire Suppression Costs found that, and I quote,

"a paradigm shift in thinking about hazardous fuel reduction effectiveness is required and can be started by ceasing to use acres treated as a "results" measurement for program accomplishments."

I share your concern that fixating on "acres treated" can lead the agencies to focus simply on the cheapest acres, regardless of how effective the treatments are.

Question 1. Can you elaborate further on the Panel's thinking here?

I understand that the Western Governors' strategic panel recommended that the federal agencies, and I quote, "Engage communities and property owners in creating defensible space around structures."

Question 2. Do you believe that California's Fire Safe program is an effective way to engage communities in hazardous fuels reduction? Is this a cost-effective strategy for the federal government, given the significant local matching grants?

APPENDIX II

Additional Material Submitted for the Record

FIREFIGHTERS ARE 'IN SYNC'

'READY': A WET WINTER MEANS MORE FUEL,
BUT AGENCIES SAY THEY'RE NOW WORKING TOGETHER.

[By Ben Goad, the Press-Enterprise, Riverside, CA, April 25, 2005]

California's top fire chiefs anticipate a busy season characterized by fast-moving and dangerous grassfires.

But they, along with elected leaders and local fire bosses, are encouraged by the state's progress in tackling problems encountered during the recommendations devastating 2003 firestorms.

Twenty-two of 48 recommended changes laid out a year ago by the Governor's Blue Ribbon Fire Commission are in place or are being addressed, according to a draft of a report being prepared for Gov. Schwarzenegger.

An additional 18 of the panel's recommended actions are expected to be complete by July. The remaining eight are to be implemented by various dates ranging from next January to the year 2010, according to the report.

"Are we ready for fire season? Yes, we're ready," California Department of Forestry Director Dale Geldert said Monday. "This is the first time I know of when all the fire agencies have worked together for a common set of goals for the entire state of California. We're in sync."

Training, Resources Cited

More training and resources are cited by the report as areas where progress has been made.

New regulations extend the daily operating time for firefighting aircraft, and agencies from local, state and federal levels have begun holding regular teleconferences to compare notes and share information on days when conditions are ripe for a large wildfire, Geldert said.

Other recommendations, including calls for new laws and training standards, have been addressed but will take years to implement, according to the report.

Report Being Compiled

Geldert, one of 13 commission members on a working group that is compiling the report, said he expects to brief state Resources Secretary Michael Chrisman on the progress in the coming weeks, and Schwarzenegger soon after.

The report comes just months after several elected officials, firefighters and commission members expressed frustration that agencies had not implemented more recommendations. As of mid-October, only nine had been addressed.

Agriculture Undersecretary Mark Rey, who oversees the U.S. Forest Service, said late last week that the region could get a respite from major forest fires this year.

Winter rains lessened the effects of enduring drought, and fires that move through treetops, in Southern California's four national forests, Rey said.

"Generally speaking, we think fire season will be more benign in Southern California and more difficult in the Northern Rockies," he said.

Rain a Mixed Blessing

But state and local officials, while agreeing that moisture levels deep in area forests are far higher than in previous seasons, fear that the heavy precipitation is a mixed blessing.

The bumper crop of grass and new brush brought by the past winter's near-record rainfall already has begun its annual transition from lush green to brittle amber. The drying vegetation will become fuel for fires.

"There is a tremendous grass crop that has left me extremely worried," said Jim Wright, CDF's chief of fire protection.

Several significant wildfires, some as large as 30 to 40 acres, have already occurred in the region, particularly in the Lake Matthews area, Corona Fire Chief Mike Warren said.

But Warren said he already sees a difference in the way fire agencies respond to fires in the post-blue ribbon commission era. Improved communication, which was among the chief priorities set out by the panel, is evident, he said.

"What I'm seeing is a rapid move toward mutual aid," Warren said. "There isn't the kind of hesitation that there has been in the past to call on a neighbor for help."

Governor Credited

Warren, who is also a commission member, attributed much of the commission's progress to support from the Schwarzenegger administration.

Schwarzenegger came under fire in October after vetoing four fire-related bills amid the height of fire season. Several officials questioned the state's resolve to implement the commission's recommendations. Even retired Sen. William Campbell, who served as chairman of the panel, expressed frustration.

In a December meeting, Schwarzenegger vowed "100 percent support" of the commission's plans, Warren said. In subsequent meetings in January, February and March, commission members spent hundreds of hours further prioritizing the recommendations and setting them into motion, he said.

Schwarzenegger and then-outgoing Gov. Gray Davis created the commission in the aftermath of the 2003 fires, which torched three quarters of a million acres across Southern California, destroying thousands of homes and killing 22 people.

AN END TO TURF BATTLES: NEW FIRE-FIGHTING STYLE TESTED AT CAMP 5 BLAZE

[By Bill Harlan, Rapid City Journal, Rapid City, SD, April 25, 2005]

U.S. Forest Service District Ranger Pam Brown and Joe Lowe, the state of South Dakota's top fighter of wildfires, were almost giddy Wednesday over what happened last Sunday during the Camp 5 forest fire near Deadwood.

"We came together as firefighters rather than as agencies," Lowe, who directs the state Division of Wildland Fire Suppression, said.

"From my perspective, this was huge," Brown, who runs the Northern Hills District of the Black Hills National Forest, said.

The fire ignited late Sunday afternoon about a mile south of U.S. Highway 14A, which runs through Boulder Canyon. It ran hot and fast into the night, burning 775 acres before firefighters had it 60 percent contained Monday and fully contained by Tuesday night.

Cool, wet weather Monday night helped administer the coup de grace, but Lowe and Brown were both emphatic that a crucial "burn-out" and fire lines built on the east side of the fire helped save homes in the Boulder Park subdivision.

What they were excited about was a fire management structure called a "unified command"—a concept that only a policy wonk could get giddy about.

Brown and Lowe, however, insisted that the "unified command" system could have profound results in the fire-prone Black Hills.

"They've used it for years in California," Lowe said. He spent most of his firefighting career there.

Unified command is a management structure that allows various firefighting agencies to come together quickly to coordinate firefighting efforts.

Sunday night, for example, Lowe and Forest Service firefighter Terry Tompkins were among the first on the scene. The fire was on Forest Service land, so, under the traditional system, Tompkins would have been in charge. However, Lowe had already discussed trying the unified command system with Dean Berger, fire management officer for the Black Hills National Forest.

Lowe and Tompkins, talking on cell phones on their way to the fire, decided to give unified command a try.

Brown, who manages the ranger district where the fire started, also approved. "We had to get after it fast," she said.

Lowe and Tompkins met in person at the fire to discuss a strategy. Among their objectives:

- Fight the fire aggressively all night.
- Focus on the east flank of the fire.
- Set an east flank burn-out that, though risky, could help save homes.

They also agreed on a system for ordering people, equipment and supplies. They even roughed out a cost-sharing agreement.

Lowe said the most important objective, aside from safety, was to "build a box" on a map. "Once the box is defined, you look for ways to keep the fire in it," he said.

While Lowe and Tompkins were building the box, the initial responders, including volunteer departments, continued to work the fire, which was already crowning—moving fast through tree tops.

The fire plan, however, was in place, in writing, within minutes. Then Lowe and Tompkins picked an "operations officer" to run the effort. For the night-shift Sunday, that turned out to be Randy Skelton, a battalion chief with the Rapid City Fire Department.

Brown said that from Sunday night on, firefighters from about a dozen organizations worked as though they had trained together all year. They came from the Forest Service, the state of South Dakota, the National Park Service, the Bureau of Indian Affairs, volunteer fire departments and county agencies. They also included specially trained state prisoners from the Rapid City Trusty Unit.

"It's great when it's so effortless," Brown said, because multi jurisdictional firefighting can be difficult.

Elements of the unified command system have been used here before, but Lowe said this was the first time the formal structure had been used on a big wildfire in the Black Hills.

Lowe is eager to use the system again. The Black Hills National Forest is honeycombed with private land holdings, he pointed out, which makes it ripe for turf battles—or at least jurisdictional confusion.

"When would unified command not make sense in the Black Hills?" Brown asked.

DEPARTMENT OF AGRICULTURE,
DEPARTMENT OF THE INTERIOR,
Washington, DC, April 5, 2005.

Hon. ELLEN ENGLEMAN CONNERS,
Chairwoman, National Transportation Safety Board, Washington, DC.

DEAR MADAM CHAIRMAN: On April 23, 2004, the National Transportation Safety Board (NTSB) issued a letter to the Secretary of the Department of Agriculture (USDA), the Secretary of the Department of the Interior (DOI), and the Administrator of the Federal Aviation Administration (FAA) containing safety recommendations based on the NTSB's review of three large airtanker crashes caused by in-flight structural failures. This joint response from USDA and DOI addresses NTSB Safety Recommendations A-04-29 through A-04-31.

A-04-29. Develop maintenance and inspection programs for aircraft that are used in firefighting operations that take into account and are based on:

1. The airplane's original design requirements and its intended mission and operational life;
2. The amount of operational life that has been used before entering firefighting service;
3. The magnitude of maneuver loading and the level of turbulence in the firefighting environment and the effect of these factors on remaining operational life;
4. The impact of all previous flight hours (both public and civil) on the airplane's remaining operational life; and
5. A detailed engineering evaluation and analysis to predict and prevent fatigue separations.

On behalf of their respective Departments, USDA's Forest Service and DOI's Bureau of Land Management have engaged in a process to immediately mitigate the safety risk and provide for continuing safe operation of public firefighting aircraft to comply with Recommendation A-04-29. This process is outlined as follows:

1. On May 10, 2004, the agencies terminated 33 large airtanker contracts.
2. With FAA participation, an enhanced inspection process was established and a request was issued to airtanker companies for documentation that could be used to evaluate historical data and the maintenance and inspection programs and practices of the airtanker industry.
3. On June 10, 2004, the Forest Service contracted with DynCorp Technical Services to provide evaluations of aircraft and vendors for compliance with A-04-29.
4. With regard to items 1, 2, and 4 of the above recommendation, the issue of determining the "remaining operational life" of some existing airtaker models was problematic, but the Departments agree with the NTSB that determination of an

operational life was critical to preventing separations that might result from widespread fatigue damage.

5. To this end, vendors and the Departments are working together to determine an operational service life while simultaneously collecting load spectrum data to refine it for the firefighting environment. DynCorp was tasked to determine if an operational service life existed or could be determined for each aircraft type—and if individual aircraft remain within this service life. To determine operational service life and "fatigue life expended" for each airframe, DynCorp is actively seeking fatigue life histories and applicable information from airtanker companies, Sandia National Laboratories, original aircraft manufacturers, and the military.

6. Data recorders have been installed on several airframe models to collect load data on the low-level fire environment in order to more accurately define the load spectrum and to determine fatigue life limits and maintenance and inspection procedures and intervals. This information will be critical in the evaluation of current and future firefighting aircraft.

A-04-30. Require that aircraft used in firefighting operations be maintained in accordance with the maintenance and inspection programs developed in response to Safety Recommendation A-04-29.

The Forest Service has contracted with the former Executive Director of the Transportation Safety Board of Canada to develop a *Special Purpose Operations and Airworthiness Manual.* This manual will clearly articulate roles, responsibilities, processes, and procedures for operational, maintenance, and inspection standards for public-use firefighting aircraft.

In the interim, the Forest Service has established conservative maintenance and inspection requirements for airtankers that have been returned to operational service and has included these expanded requirements in all airtanker contracts. The requirements will continue to be refined as additional load data are collected and appropriate engineering analyses are conducted.

The Bureau of Land Management has established a Continuing Airworthiness Program (CAP) Manager position with responsibility.for implementing a CAP for all of the types of firefighting aircraft it uses. This CAP is based on assessments of aircraft mission profiles, make/model safety information, aircraft inspections, aircraft records research, and maintenance and inspection program evaluation. The end result of these assessments will be the development of a Structural Health Monitoring plan for each make/model of aircraft used in firefighting operations. All steps in the process are to be coordinated with the Original Equipment Manufacturer.

STATEMENT OF THE U.S. DEPARTMENT OF AGRICULTURE, FOREST SERVICE

FIRE AND AVIATION MANAGEMENT BRIEFING PAPER

Topic: Fiscal Year 2005 Forest Service Firefighter Training Cost Estimates

Issue: Projected training costs for 2005 based on anticipated personnel employed in Fire Positions

Background: The cost of training fluctuates from year to year and from region to region. In addition, the Forest Service does not consider training cost an effective means of determining a firefighter's ability to perform safely and does not specifically track these costs. However, any estimate of training cost must be based on the number of firefighters and required courses. Firefighter is qualified for a variety of positions that require successful completion of training, observed performance, and approval from a board of experts. Firefighters carry a position qualifications document (Red Card) that show they have met all training, experience and physical fitness requirements to perform specific jobs. No firefighter is assigned to the fireline until they have met all standards and this has been certified.

Key Points:

- The Forest Service maintains training standards for most fire positions that are above the minimum training requirements set by the National Wildfire Coordination Group. The increased qualifications are outlined in the Forest Service's *Fire and Aviation Management Qualifications Handbook FSH 5109.17.*
- Standard government-wide accounting uses Budget Object codes to classify costs, such as salary, travel, and training. However, travel expenses in budget object codes are typically limited to training tuition costs, which is a small portion of total training costs. The majority of the costs are associated with the time and expense of employees attending training.
- Each region is required to use money included in their preparedness funding to pay for training related expenses. The cost for regional and local fire training in FY05 was *$22.4 Million.*

- The Forest Service also provides funds for National or advanced levels of training which are hosted by the National Wildfire Apprentice Training Academy, National Advanced Fire and Resource Institute, Fire Use Training Academy, and National Prescribed Fire Training Center. The amount provided in FY 2005 for these training programs was *$7.1 Million.*
- On October 1, 2004 Interagency Fire Program Management (IFPM) was initiated in response to recommendations from the Interagency Management Review Team. IFPM is intended to professionalize the fire and aviation organization with standard position competencies and higher education standards. This program will increase the training requirements for a significant portion of the workforce. The first significant signs of an increase in training needs will occur in FY 2006.

Conclusion: The cost of training fluctuates from year to year and from region to region. These fluctuations are due to the variation of individuals hired and the amount of specialized or advanced training determined to be necessary to meet current individual, unit, regional and National needs. The combined estimate cost of local, regional and National fire training for *FY05* is *$29.5 Million.*

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